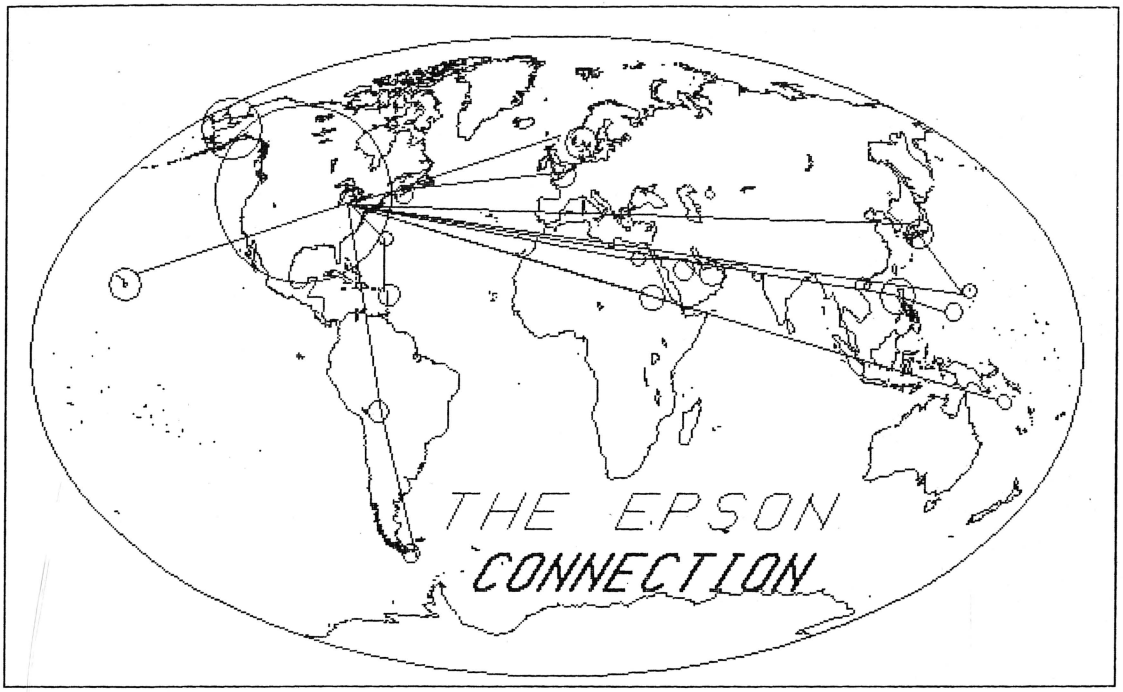
VOLUME II / No. 2
March/April 1984

# EPSON Connection

© Copyright 1984

P.O. Box 14027 / Detroit, MI 48214 / (313) 822-0090




*Drawing done with "QX-Draw" Graphics Design System for the Epson QX-10 Computer.*
**Copyright 1984. American Small Business Computers, Inc.*

*This month brings us closer to many exciting things happening in the Epson computing world. The new promotions with the 8088 Epson PC Board (by Titan Industries), the Communicator modem at last, several RAM disk drive programs to make use of the additional memory the QX-10 has available when using CP/M, and internal expansion memory boards for the HX-20 are all signs of the growth of our computers.*

*It is always exciting to welcome additional overseas Epson users to our group. We have new members in Oman, the Phillipines, Egypt, Saudia Arabia, and Bermuda. It was a pleasure to have one of our Hawaii users visit in person. Don Green will be leaving Hawaii and moving to Japan for a few years, and will keep us up to date from there.*

*There has been a tremendous growth around the country of local users groups. With this growth have come many more user group newsletters. I have recently received a copy of "The Help Key", in which there is reference to starting a new publication called "Epsonet". This should not be confused with our Epsonet RBBS/ RTPM Bulletin Board System— there is no connection or affiliation between the two, and I hope it will not cause confusion for users. We are very pleased with the response to our electronic bulletin board system. We are expanding to over 20 systems around the continent, and are in the process of adding some systems in other countries. We certainly appreciate all the efforts of these individuals in donating their time, computers, and phone lines to provide a service to other users.*

*I have had many users endorse my own interest in a national Epson Users Conference. It is an exciting idea, and I am encouraged by the interest expressed by both Epson America and Rising Star in assisting and supporting this venture. Holding perhaps two a year coinciding with the Fall and Spring Comdex shows would be exciting. Let's try to get our ideas and plans implemented before this year is out. Some exciting hands-on workshops, guest lectures, and learning sessions with each other will certainly benefit all.*

*A closing note this month is in regard to correspondence. We have received over 100 letters a month, and keeping up with them is an impossibility. We will be including as many responses as possible in the questions and answers section, and will try to answer all of your questions. I hope you will understand that it is virtually impossible to respond to each letter on a one-to-one basis.*

BULK RATE
U.S. POSTAGE
PAID
PERMIT NO. 100
DETROIT MICH.

Address Correction Requested

EPSON Connection
P.O. Box 14027 / Detroit, Michigan 48214

# FREE WITH YOUR ORDER FOR ANY 3 OR MORE ITEMS ON THESE PAGES GET –

## Two Fresh Packed MX-70 or MX-80 Ribbons

**Send for your free ribbons today.**

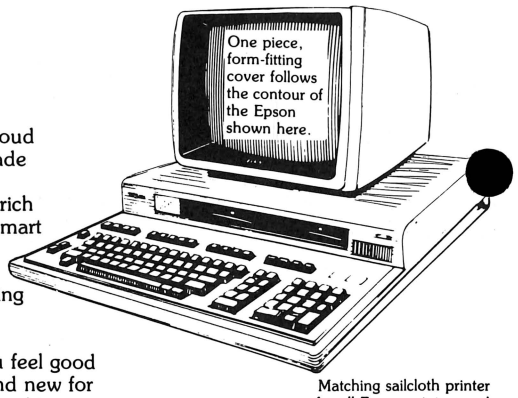
Regarding these ribbons: Don't be fooled by cheap ribbons. These ribbons are made from 4018 Nylon, a finely processed 5 mil nylon designed for use on Matrix printers. These ribbons offer an excellent balance of print quality, economy, and performance. The suggested retail is $14 apiece. We are making this offer to introduce you to these premium ribbons and our fast service and low prices

This free offer applies to any 3 or more separate items. For example, an Epson Quality Cover, a surge suppressor, and a lockable defender equals 3 items; but a single box of diskettes is one, not ten items. One free set of ribbons per customer. We must reserve the right to end this offer. Don't be disappointed, order today. These ribbons are also available individually bagged, in a set of 2 per custom box, at $6.99 per ribbon. Satisfaction Guaranteed.

**CENTRAL COMPUTER PRODUCTS**
**860 Central Avenue • Fillmore, CA 93015**
**(805) 524-4189**

© 1984 Central Computer Products

# Introducing A Classic Form Fitting Epson Cover




At last, the classic Epson dust cover you'll be proud to own and use. This first rate computer cover is made from a premium, lint free, static free, washable, free breathing, and fade resistant sailcloth. It comes in a rich looking Navy blue or Sand. The Navy cover has a smart contrasting silver gray piping and trim that adds a superior finished look. Not to be outdone, the Sand cover is handsomely finished in a rich chocolate piping and trim.

This remarkable form-fitting dust cover makes you feel good and will keep your Epson dust free and looking brand new for years to come. For a limited time only, your price for this factory direct, custom made, sailcloth Quality Cover is $18.95. When ordering remember to indicate color preference. This special low price is subject to change. You must be completely satisfied with your purchase of this cover or we will refund your money immediately. Order today.

Matching sailcloth printer covers for all Epson printers and the ComRiter CR-II are $14.95 each.

- Quality tailoring
- Easy care fabrics
- Attractive colors
- Professional appeal

**FACTORY DIRECT**

**Richly tailored inside and out.** Look inside any of our Quality Covers; see the ultimate finishing; we use machines that sew with 3 needles so that edges will not unravel or shed lint. We stress perfection because you deserve the best. Compare for long-lasting satisfaction.

## Letter Quality

Say goodbye to correspondence qual
high–resolution, proportionally spa
*Font* provides fonts in sizes from
Roman, Bold, Italic, Script, Old En
low–cost Epson (MX, RX, FX) and
*Font* is an easy–to–use software pa
compatible systems; no special hardv

Sample Printed with Fancy Font.

## Incredible Printing Machine!

Your Epson printer is going to get even better. *Fancy Font* can make it into an incredible printing machine. The *Fancy Font System* is a software program that turns the bits and bytes generated by your computer into over 30 font sets in sizes from 8 to 40 points that can be printed on any Epson or Gemini 10X printer.

*Fancy Font* styles include Roman, Bold, Italic, Script, Old English, and more. In addition, custom forms, invoices, labels, signs, foreign languages, mathematical notations, view graphs, resumes, newsletters, brochures, complete manuals, invitations, place cards, and high-resolution, proportionally spaced, letter quality business and personal letters can all be printed on your Epson printer with *Fancy Font* at the helm. *Fancy Font* is a product of SoftCraft Inc. You may have seen SoftCraft's national ads. They are printed with *Fancy Font* on a Epson MX-80. The ad is powerful visual medicine. The list price for the fully documented *Fancy Font System* is $180. Central's price for *Fancy Font* is only $149. Order *Fancy Font* today and add an amazing sparkle of creativity to all your printed materials. *Fancy Font* will make your Epson printer come alive. It's magical.

# Enemies of Epson ... Spikes, Surges, and Noise!

"Spikes and surges can be the greatest threat to your computer outside a 4 year old child with a jelly sandwich aimed for the disk drive slot."

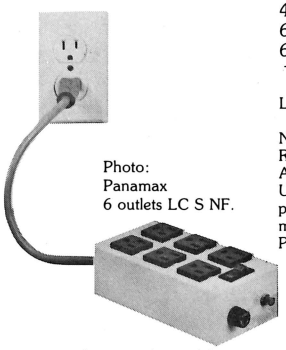


Photo:
Panamax
6 outlets LC S NF.

The Epson has enemies. But now you can protect it from the mish mash of electrical currents that race through your home or business. Powerful up-surges of current can actually blow out your machine. Less powerful, barely noticeable spikes, surges, and noise can silently degrade your system in time, ruining chips, destroying data, and causing expensive service calls.

The plain truth is: "Line filtering will protect your computer...from power surges or other undesirable occurrences from the power source." Surge protection will help your Epson provide years of trouble-free service. Also, if you plan to use your Epson to access information by modem, you must have a reliable high frequency noise (EMI/RFI) suppressor to insure against data loss and scrambling.

**PANAMAX SURGE SUPPRESSORS**

| Description | List | Price |
|---|---|---|
| 2 outlets, D | $89.00 | $59.95 |
| 2 outlets, D NF | $109.00 | $69.95 |
| 4 outlets, LC S | $107.00 | $79.95 |
| 4 outlets, LC S NF | $127.00 | $99.95 |
| 6 outlets, LC S RB | $124.00 | $99.95 |
| 6 outlets, LC S RB NF | $144.00 | $109.95 |

D: Connects direct to grounded wall jack.
LC: Includes 6 foot long heavy duty line cord.
S: Includes illuminated on/off switch.
NF: Includes EMI/RFI noise filter.
RB: Includes reset button.
All units include the added security of a 4 amp fuse. Unique Panamax EMI/RFI noise filters provide protection in common and transverse mode. Essential for modem communications, multi-user stations, etc. Panamax units are factory guaranteed for 24 months.

"Power line-associated problems are estimated to cause nearly 70 to 90 percent of the malfunctions in the IBM PC."

"Overvoltage can be fatal to both data and hardware alike."
*P.C. Magazine, March 1983*

There are many "toy" surge suppressors on the market. They are smartly colored, but beware. The performance difference is amazing. The best surge and noise suppressors on the market are made by Panamax. Our "Panamax Challenge Certificate" tells all. It is a startling comparison of Panamax quality with 11 other well-known brands. One aspect of this revealing report tells how Panamax responds to and cuts surges in 5 or less pico seconds, while most other suppressors respond at a comparably slow 5 to 50 nanoseconds!

Check our regular low prices. Try the Panamax of your choice for 15 days. Receive the "Panamax Challenge Certificate" with your purchase. If not completely satisfied with your purchase, return for immediate full refund. Your Epson deserves Panamax protection, the best there is. Order today.

## 200 Watt Protection

Power failures and power interruptions can zap your QX-10 and destroy files you've worked hard to collect. PowerMAX protects sensitive electronic equipment from line disturbances and provides battery backup power in the event of power interruptions or failure. PowerMAX offers top-quality surge suppression, maximum power protection, 200 watts output for 15 minutes, an operating status alarm and indicator, and a maintenance-free rechargable battery; all this encased in an attractive cream-colored metal case. Installation of the PowerMax unit is quick and easy. Plug your computer and hard disk drive into the output sockets on the back of the unit. Insert the PowerMAX powercord into any AC wall outlet and flip the switch to the ON position. The PowerMAX can feed your QX-10 and a ten meg hard disk clean power for more than 15 minutes after a complete blackout. You have plenty of time to save your present file, open the disk drives, store your disks, and safely shutdown the system. Without loss of data or injury to your computer or other equipment you've hooked in the PowerMAX. The full retail price of the PowerMAX is $459. Compare this to units that provide 5 minutes of backup power and cost $695 or more. The PowerMAX is better. Central's price is $379. Order today and put your power-worries to rest.

# SHOP-BY-MAIL
## CENTRAL QX-10 SOFTWARE

| Product Description | List | Central |
|---|---|---|
| **Software** | | |
| **ASHTON-TATE** | | |
| dBase II | $700.00 | $455.00 |
| **ATI TRAINING DISKS** | | |
| DB Power for dBase II | $ 75.00 | $ 62.00 |
| CP/M | $ 75.00 | $ 62.00 |
| MBasic NEW | $ 75.00 | $ 62.00 |
| Multiplan | $ 75.00 | $ 62.00 |
| Wordstar | $ 75.00 | $ 62.00 |
| **BLUE CHIP SOFTWARE** | | |
| Millionaire | $ 59.95 | $ 49.95 |
| **CHANG LABS** | | |
| MultiPlan | $250.00 | $199.00 |
| **CONTINENTAL SOFTWARE** | | |
| Home Accountant Plus | $ 99.95 | $ 79.95 |
| **HERITAGE SOFTWARE** | | |
| SmartKey II and SmartPrint II | $129.00 | $ 99.00 |
| **MICROPRO** | | |
| Mailmerge | $250.00 | $199.00 |
| Wordstar | $495.00 | $350.00 |
| **MICROSOFT** | | |
| MicroPlan | $495.00 | $357.00 |
| **MYCROFTS LAB** | | |
| Mite Communciations | $150.00 | $ 99.00 |
| **OASIS SYSTEMS** | | |
| Punctuation & Style NEW | $125.00 | $ 99.00 |
| The Word Plus | $150.00 | $115.00 |
| **QUIC-N-EASY PROD** | | |
| Q-Pro-4 | $395.00 | $277.00 |
| Quic-N-Easi AG | $295.00 | $210.00 |
| **STAR SYSTEMS** | | |
| The Accounting Partner | $395.00 | $295.00 |
| Property Management | $950.00 | $645.00 |
| Legal Billing NEW | $950.00 | $645.00 |
| **T/MAKER** | | |
| T/Maker III | $275.00 | $210.00 |
| **Hardware** | | |
| **DYSAN DISKETTES** | | |
| Dysan DSDD | 10/box | $ 39.95 |
| **MANNESMANN TALLY** | | |
| Spirit Printer | $399.00 | $349.00 |
| **Bookware** | | |
| **THE BARIAN COMPANY** | | |
| The QX-10 Book | $ 15.95 | $ 13.95 |

**Free** yellow Hi-Liter pen sent with every book order.

Prices, specifications, and offers subject to change without notice.

## CABLES

Top quality, individually tested 36 pin Centronics-type standard parallel cables for the Epson QX-10. These are made to work hard and long.

5 ft cables ... $19.95 each
10 ft cables ... $24.95 each

Top quality, individually tested RS-232C cables designed with reinforced clamps for a sure continuous connection and made especially for your Epson QX-10. Buy here and save.

2 ft cables ... $15.95 each
5 ft cables ... $19.95 each

Satisfaction Guaranteed or Money Back
Order with Confidence

## PRICE PROTECTION

We have a super price protection policy: Central will match or beat any price you see listed in this publication on products also advertised in our ads. Buy from us. If you see a lower price in another ad in this publication, tell us when you order, or within 30 days of your order. We'll refund the difference, or match, or beat that price. That's a promise. Try our friendly service today for affordable, price-protected, lightning-fast deliveries. Please ask for our free catalog.

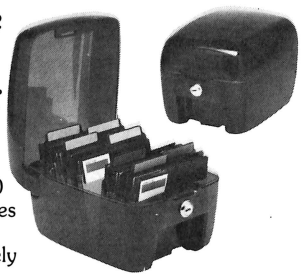
# CP/M Tamer

CP/M is a strange animal. However much of the world's most popular business programs are written to operate under CP/M. Your QX-10 can take advantage of hundreds of these programs, so don't be afraid of CP/M. *Power!* from San Francisco Computing is a remarkable CP/M taming program with 55 user-friendly CP/M utilities all rolled into one concise, super-power-packed 15k package. *Power!* allows you to recover erased disk files; ends BDOS errors, and assigns a number to each file on your disk. Now, to copy files from disk to disk you don't have to fiddle with PIP anymore. You just pick a number and let *Power!* copy that file for you. *Power!* also has a great disk testing function that gathers bad sectors into a special file so that CP/M thinks those parts of the disk are already used and never attempts to write to them. You'll never loss data in a bad sector again! Changing disks? *Power!* can do it for you automatically. And *Power!* doesn't require a system disk in any drive, so both drives A and B are open for business, when *Power!* oversees your CP/M.

Performance, Ease of Use, and Error Handling features of *Power!* were all top-rated "excellent" by Infoworld. *Power!* operates on hard disks too. Get *Power!* today. The list price of *Power!* is $169. Central's current super-low-price is $99. Order today to get Power! fast.

*Power!* is filled with so many unique features, it's impossible to list them all here. One more? *Power's* special password protection feature lets you lock and unlock sensitive files, so that only you can access them with your secret password. A great way to protect financial or scientific data from unauthorized viewing. It's true. *Power!* tames an often difficult and unruly CP/M.

# Lockable Diskette Defender



This handsome, lockable diskette defender holds 70 Epson-size diskettes in a sturdy tray. Now you can safely desk top file your programs and data diskettes for quick and easy reference. This streamlined case is constructed of high impact, smoke-tinted acrylic. Flip-up lid keeps out dust, debris, and moisture, and locks securely to guard your important work. Comes with 7 dividers with index tabs for easy filing and to keep floppies upright to prevent bending, warping, and scratching. Molded recessed handles for worry-free carrying. Tough and secure metal lock never comes in contact with diskettes because it is enclosed in a special plastic housing. This is a super value at the new list price of $27.95. Some sell these for as much as $39. Our low price is $25.95 for one, or $23.95 each if you buy 2 or more. Keep prying eyes and sticky fingers away from your data. Guaranteed. Order today.

# Copy 32 Disk Formats

Until now, when you wanted to trade data disks or programs with your friends you couldn't without going through considerable trouble and expense. With *Uniform* you can easily read and write many other machine formats. For example, now you can send a Kaypro using friend your latest manuscript for editing or review; or send a Televideo-owning business partner new financial projections on a disk he can read and write to. There are literally thousands of uses for *Uniform*. With *Uniform* you can use the disk drives on your QX-10 to read and write 31 other CP/M formats. You can also copy the non-CP/M, MS-DOS and PC-DOS IBM formats. You might expect a software program like this to sell for hundreds of dollars, since writers, publishers, teachers, administrators, doctors, lawyers, and others, all need to trade data at one time or another. However, despite a recent price increase, MicroSolutions, the manufacturer of *Uniform*, lists this great program at incredibly low $69.95. Central's price for this easy and fun to use program is only $59.95. Order *Uniform* today. Satisfaction Guaranteed.

# Lifetime Guarantee!

**3M** Double-Sided Double Density soft-sectored diskettes are certified error-free, and will work like a charm on your Epson QX-10. Every 3M diskette is guaranteed to last over 3.5 million passes per track. This means if you rewrote or updated every track on a 3M diskette once per hour, you would have to continue this process for more than 200 years to equal the 3.5 million pass level. Heavy duty reinforced hub ring furthers the long service life of these diskettes. We guarantee trouble-free, lifetime performance of 3M disks or money-back.

Our quantity stocking of 3M diskettes and other guaranteed quality 3M products allows us to share with you our new shockingly low, low prices. Suggested list price of 3M DSDD diskettes is $60. Central's low price for a fresh box of ten 3M DSDD diskettes is $31. There is no better diskette made for your Epson. For fast, fast delivery, order your diskettes today.

3M DSDD diskettes for Epsons: **$31.00**
3M Head Cleaning Kits for Epsons: **$21.95**

### CENTRAL COMPUTER PRODUCTS

860 Central Avenue, Dept. E2
Fillmore, California 93015
(805) 524-4189

Dear Central,

Please send me the items listed below. I want fast friendly service. Don't forget to include my 2 free MX ribbons. I understand there is no charge for these ribbons if I purchase 3 or more items from these pages. My check, money order, or card number is enclosed. Thanks.

| Description | Price |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Sub-Total | |
| CA Resident 6% Tax | |
| **FIRM MONEY BACK GUARANTEE ORDER WITH CONFIDENCE** Postage & Handling | $ 3.00 |
| Total | $ |

☐ Navy blue ☐ Sand
☐ Send free catalog ☐ Send free MX ribbons
☐ Check enclosed ☐ Money Order enclosed
☐ Visa/Mastercard # _____
Exp. Date _____ Sig. _____
Name _____
Address _____
City _____ State _____ Zip _____

Phone Orders Accepted.
To order by mail use coupon, letter, or photo copy. Thank you.

© 1984 Central Computer Products

# News Notes

## GRAPHICS PROGRAMS

QXDRAW— by American Small Business Computers, see new products section.

MICROPLOT, by MicroNova— a new graphics program, see their add. They have donated a demo program called LACE which will run under Valdocs. LACE is available on the Epson Connection RBBS.

Metro Software, originators of Q-PLOTTER, have introduced a joystick and mouse internal interface board for the QX-10. Their new version of QPLOTTER includes a two dimensional cad-cam type of program, the ability to store a library of drawings, and the feature of retrieveing a drawing or figure to any place on the screen. Metro Software has indicated a trade-in will be allowed for users who have previously purchased their programs in order to upgrade their systems.

## EPSON AMERICA & COMREX RELEASES

The Communicator CR-103 has passed final FCC approval and is now available.

The QX-PC board with 192K is available, see our review in this issue.

CR-III, a new comriter printer has been released. Seven new HASCI-ized programs are available which take advantage of the HASCI special funtion keys. The programs are: WordStar, MailMerge, SpellStar, dBase II, Friday!, MicroPlan, and GraphPlan. These are being called the "Epson's Executive Tool Kit".

CP/M B— is an updated CP/M system for the QX-10. Features include a 112K RAM disk, special indexer and set-up utilities. This new version also includes a communications program, called MTERM, accessed via the "Mail" key. The CP/M is stored as a file on the disk, with a pre-loader program. The set-up program allows the user to reprogram all the function keys except the typestyle keys. The MTERM does not use Christensen Protocol. It has a buffer which allows you to send a file at a given time and log-on messages with delays between the messages. Extensive documentation accompanies the program, and will be included with new QX-10 units. The Indexer program is an exotic disk maintenance program. It allows you to transfer, delete, copy, tag and rename files with a simple key stroke. It is similar in usage to the public domain programs called DISC and SWEEP.

## NOTE TO ALL DEALERS:

**If you are not already on our dealer list, please let us know so you can receive your complimentary copy.**

## LETTER TO THE EDITOR

So glad to hear you are going monthly. As a beginner with computers, I've learned more and enjoy my QX-10 more because of the fine articles that appear in the EPSON CONNECTION.

P.S. I've tried to reach you on RBBS/RTPM but the line is always busy. That must prove something. Bob Randall, Lansing, MI

## IMPORTANT NOTICE NEW RISING STAR PRODUCT SUPPORT (213) 257-4665

This is the new product support phone number for Rising Star Industries. Lynn Verhoeff will be handling your phone calls for help. She requests that users follow the practice of calling their dealers first, then if they still need help, their distributors. The Distributor should be the second step, and then Rising Star. Written materials, letters, suggestions and feedback should be directed to: Jewell Brandt, Rising Star Industries, Product Support, 6742 pagentry Street, Long Beach, CA 50808.

Rolodex is a trademark of Rolodex Corp. Epson HX-20 and Epson QX-10, EpsonLink are trademarks of Epson America, Inc. Pearl is a trademark of Relational Systems International Corp. PeachText, PeachText 5000, PeachCalc, Mailing List Manager, are trademarks of Peachtree Software. Sorce is a trademark of Source Telecomputing, Inc. CompuServe is a trademark of CompuServe and H & R Block Co.; Dow Jones News/retrieval is a trademark of Dow Jones & Co. Hasci and Valdocs are trademarks of Rising Star Industries. TPM is trademarked by Computer Design Labs. MS-DOS is trademarked by MicroSoft.

## INDEX

Getting the Most Out of 1.18. . . . . .
Giving Your Epson An IBM Personality. . . . . .6
Create Your Own TPM Operating System . . . . . .8
Starting A Users Group. . . . . .11
RSIBASIC For The QX-10 . . . . . .12
The Epson-Net Network. . . . . .14
New Products. . . . . .18
A Universal Disk Format. . . . . .21
Bookstore . . . . . .22
Questions & Answers . . . . . .23
Software Review. . . . . 24 & 30
Hardware Review . . . . . .25
Potpourri. . . . . 26
Ralphs Corner. . . . . .28
Potpourri-2
Potpourri. . . . . .26
Ralphs Corner. . . . . .28

## ADVERTISERS LIST

Acorn / CS
The Barian Co. / 25
Central Comp. Prod. / IFC, 1
CompuProd / 9
Interface Solutions / 15
Brain Lomasky / 27
M.C.S. / 31
Mag Software Inc. / 24
Metro Software / 32, IBC, BC
Micro Nova / 26, 10
Morning Star Micro / 7
Space Coast Systems / 9
G.W. Smith / 22
Stable Technologies / 3, 20
Sydney Development / 29
Virginia Micro Systems / 13

The Epson Connection is a bi-monthly Newsletter distributed to members of the Epson Users Group. Membership fee is $15.00 U.S., $18.00 Canada for one year.

All inquiries regarding membership; editorial suggestions; problem solving; questions; programs or information about forming a local Users Group should be sent to THE EPSON CONNECTION, P.O. Box 14027, Detroit, Michigan 48214.

**All inquiries regarding advertising are to be directed to The Epson Connection, P.O. Box 184, Novi, MI 48050. (313) 348-9413.**

EDITOR
Carolyn McCarthy

ADVERTISING/PRODUCTION
Maureen Mertz

CONSULTANTS
Daniel Rourke
Earl Goodrich
Ron Spatafora
Ralph Ruh
Hal Posey

The Epson Connection is an entirely independent entity from Epson America and its Distributors.

# THE HX-20 ADD-ON THAT DOES IT ALL!

*The ST-2 Interface is a multi-purpose expansion module which is plug compatible with the Epson HX-20 Portable Computer.*

- ***Complete analog and digital interface***
- ***Expands HX-20 Memory to 112K***
- ***Direct-connect auto-answer/dial modem***
- ***Magnetic Stripe Card Reader Interface***
- ***Battery operation***

### No HX-20 Modifications

*The ST-2 Interface is a powerful HX-20 peripheral which plugs into the Epson HX-20 expansion connector. It can be installed in the field in a few minutes. No more warranty worries! Easy to service.*

### Price/Performance Breakthrough

*Now you can do things with your HX-20 that would have been out of the question because of high hardware costs. The perfect way to get your application off the ground, without resorting to custom-made interfaces.*

### Analog/Digital Section

*Its 32 analog inputs accept 0 to +5 V signals. These can be read at high speed (up to 20,000 conversions/sec) with 8-bit resolution or at lower speeds with 12-bit resolution. These inputs are compatible with Stable Technology's GT-Series preamplifiers, which accept low-level inputs from thermocouples and other sensors.*

*There are 32 relay or logic outputs. The former are open-collector drivers capable of sinking up to 300 mA at 50 Volts. Logic outputs drive CMOS or TTL loads.*

*Two 8-bit high-speed counters can be used separately, or cascaded to make a hardware-based event counter which can also be used to measure RPM. One or both counters can be replaced with parallel CMOS logic inputs.*

*The ST-2 also has four analog outputs for process control and chart recorder applications.*

### Memory Expansion Section

*The ST-2 can be ordered with up to 64K of extra PROM or battery-backed CMOS RAM, which extends the HX-20's memory to a total of 112K. The memory can be used to store programs and/or data. It supports the multi-tasking extensions to HX-FORTH, a programming language which allows the HX-20 to handle very large, complex applications efficiently. The ST-2 can be ordered without any analog/digital interfaces when only the extra memory is needed.*

### Data Communications MODEM

*The 300-baud modem is FCC-approved for direct connection to dial-up or leased telephone lines, which results in more reliable communications than acoustic coupling can provide. It is a programmable "smart" modem which lets the HX-20 send and receive data calls from a remote computer in an unattended mode. This can pay for itself in store/forward applications by letting the HX-20 transfer data at night.*

### Magnetic Stripe and Bar Code

*Stable Technology is very experienced in point-of-sale applications. The ST-2 contains an interface which is designed to support our motorized or "swipe" readers for ABA Track 1 or 2 credit cards. An extended version of HX-FORTH is available to support both magnetic and bar code reader applications. We also have a point-of-sale structural foam housing for the HX-20, with additional features including a 36-button keyboard, and larger display.*

### Programming The Interface

*The ST-2 Interface can be programmed in BASIC, HX-FORTH, or Assembly Language. We recommend HX-FORTH for most applications, because of its speed and compactness. Multi-tasking extensions to HX-FORTH are available for real-time applications.*

### Application Support Available

*Stable Technology encourages its customers to draw upon our extensive experience in computer applications. Our involvement can range from occasional consultations to turn-key software and hardware development and custom manufacturing.*

### Packaging

*The ST-2 is available in two standard versions. One mounts under the HX-20 and is battery powered. The other is an industrial-quality waterproof housing which also holds the HX-20 and a complete line of monitoring and control system accessories.*

MasterCard VISA®

STABLE TECHNOLOGY, INC.

*Available from:*
*G.W. Smith Associates*
*62 N. Chapel Street*
*Newark, DE 19711*
*(302) 738-7308*

*Dealer inquiries invited.*

# Getting the Most Out of 1.18

## by Colonel Hasci

When Epson America and Rising Star Industries released the first version of the Valdocs software package in April of '83, dealers and the people who bought the QX-10 computer were amazed by the ease of use and flexibility of the Valdocs software. Never before had a computer manufacturer and software development company produced an integrated full function software package that was not limited in use or growth potential and maintained the "easy to use" philosophy.

Even so, there were introductory problems. Getting a major hardware/software project off the ground requires strict timetables and prompt deadlines. The QX-10 was shown with a demonstration version of Valdocs at the Comdex Convention in November of 1982. Releasing the system before the summer of '83 was imperative if the computer and software project were to be successful. As a result, the software did not receive enough testing prior to release and was not perfect. Valdocs 1.14 was powerful, yet slow and unpredictable. Users would lose documents and the system would occasionally "crash".

## There was early concern about the quality of Valdocs

Concern about the quality of Valdocs spread quickly. Early purchasers of the computer loved the Valdocs concept. Most of the people who complained about speed and lack of performance, bugs, etc., were dealers or computer media critics. In spite of the problems, people were using 1.14 and getting work done.

Quick on the mark, Rising Star and Epson responded to their critics. A temporary update (1.16) was made available to Epson dealers for distribution to end-users. In the summer of 1983, Epson released Valdocs 1.18 as the "complete" series one software.

By this time, there was already much talk about a new version of the software. Valdocs 2.0 was already being openly discussed by dealers and distributors. It was thought to be the solution to all "bugs" in the series 1 programs. Curiously, at that time, Valdocs 2.0 was more of a theory than anything else. Perhaps because Epson America and Rising Star were so responsive in updating the series 1 software, people began to expect another version was just around the corner. Even now, many people are thinking, "any day now . . . any day now . . .". Wrong.

Although the series 2 Valdocs software is due for spring or early summer release, it is not coming out this month or next month either. When it is released, it will have undergone one of the most thorough debugging procedures of all time. Series 2 will be, quite frankly— awesome.

This brings some interesting questions to mind. How will Valdocs 2.0 be different than 1.18? Will there be new features? Is 2.0 faster and easier to use? What about all of the "bugs" still found in 1.18? How come Valdocs won't do what it says it will? What about the relationship between Epson and Rising Star Industries?

First of all, Valdocs series 1 does exactly what it says it will do. The word processor allows you to write information and store it. The semi-dedicated function keys all perform their assigned tasks. The graphics provide the charts described. The CALC key does calculations. MAIL allows the QX-10 to communicate with other computers. The SCHEDULER keeps track of your appointments and time.

Anything that is not functional in series 1 Valdocs has been commented on from day one. The SIZE and STYLE key are currently used for line spacing and underlining. In the PRINT menu, Valdocs will NOT allow you to begin printing in the middle of a document. When the MENU key is pressed, there are no special instructions that can be issued at the command line. That is— not yet.

Valdocs version 1.18 does have some bugs. Only two were serious and have since been repaired. Rising Star completed a fixed Valdocs version called 1.18F several weeks after the original disks were sent out. The problems were found in the PRINT and INDEX modules of the system. If you are having problems with losing your print status marker and the system returns to the editing screen after issuing a PRINT command, call your dealer or Rising Star. If you lose files in your disk index, call again. New owners of QX-10 s should not be experiencing these problems.

## Epson and Rising Star, is there unhappiness between them?

Next point: What about the relationship between Epson and Rising Star? There have been some rumors and "insider" gossip floating around concerning unhappiness between the two companies. Those rumors are unfounded and should be considered untrue. Both Epson America and Rising Star are working together to make the QX-10 and Valdocs one of the most sought-after computers available at any price. The Epson/Rising Star future is not only bright, it shares a common goal. Share with us— After all, you have a QX-10, don't you?

One of the most often discussed problems with Valdocs is the concern over speed. The editor in series 1 is slow— agreed. Waiting for the screen to catch up and so on can be frustrating. However, that slowness is mainly in "screen updating". Even if you have to wait a few seconds for the screen to display all of your work, you will see ALL of it. Series 1 software will not lose data from the keyboard. In addition, once you are outside of the editor, Valdocs is fast. That is a plain and simple fact. The speed of the operating system (TPM II) and the ability to handle the screen and transfer from one module to another is fantastic. For you skeptics, try loading a word processing program and write a few pages. Now

leave that program (and save your document), load a graphics package, draw a graph, store it, and reload the word processing file you were originally working on. No matter how you look at it, the Valdocs environment as a whole is plenty fast. And to finally settle the matter, the series 2 software boots up in hyper-space so speed becomes a moot point. (thanks to the Ewoks!)

The mention of problems brings up a very important point. First of all, software problems do occur with new products. In the creation of software as sophisticated and versatile as Valdocs, user feedback is a vital factor in the development of better programs. The new Apple Macintosh has some similar functions to Valdocs, but it will not interface with standard operating systems like Valdocs will. Making a unique and powerful series of programs and keeping them in the public eye requires true ingenuity. That is the entire basis of Valdocs. Rising Star calls it "Mind Amplification".

The second point concerns the use of 1.18. It seems that many people have become so excited about getting their hands on series 2 Valdocs, that they have neglected to completely learn how series 1 works! Rising Star and Epson dealers get thousands of telephone calls each week asking about the use of a specific Valdocs function. Many of these calls are unnecessary and indicate the user has: a) not taken the time to read the manuals and ask his dealer the proper question; or b) not learned all of the capabilities the Valdocs environment provides. So, while many users are asking, "Where's my 2.0?", many of us are asking, "Why don't people learn how to use what they have before asking for something new?"

There are answers to both questions. Although Valdocs is easy to use, it is also very powerful. You still have things to learn. If you expect Valdocs to perform tasks for you without first understanding how to interact with it, you will be disappointed. Because of the serious commitment Rising Star has made to be a competitor, achiever, frontrunner, and winner in this industry, their standards and goals are high.

**The most widespread information is "mis-information." This situation exist with all computers.**

As they are met, insurance of product longevity surges. Series 1 is but a glimpse into the future of what we can expect to see for the QX-10.

Valdocs is an ongoing and evolving project. Rising Star may not stop with the series 2 product. The Valdocs concept has more than four stages of development planned and under design. As users get involved with their computers and the projects they work on, the Valdocs evolution will become more defined. A simple word processor and spreadsheet program on one disk is not a finalized product. Read between the lines and imagine what you could do with all of those programs.

Remember, the Valdocs project is a new style of computer management. Anyone who has used other word processing programs in the past four years is familiar with the awkward way those programs work. Using Valdocs presents not only a new "program", but also a new way of thinking. In order to get the most out of your system, you must first discard the "old" way of looking at computers.

"Where do I get answers?" is the most common question from first time computer users. Often the dealer has not been informed, or the salesperson properly trained to pass the right information along. The most widespread information is "mis-information". This situation exists with all computers. If you are having problems getting your QX-10 to do what you want it to, follow these guidelines. First, read the instructions. Next, get your hands on any additional written information available on the QX-10. There is a Valdocs programmers' guide, a TPM-II guide, a CP/M manual, Technical user notes from various distributors, The QX-10 Book by the Barian Company, The Epson QX-10 Users Guide by James Hansen, The Epson Connection publication, and newsletters like QHX, and many articles in trade magazines to go through. Another valuable resource is joining a user group. User groups are made up of, in this case, QX-10 owners. They meet once or twice a month to share information about their systems, meet other users, and learn about the newest developments. Once you've committed to getting the most out of your QX-10, Valdocs will not only seem more usable, it will be.

Series 1 of Valdocs proves the concept of integrated easily understood software works. A computer can be used to do work without the user first becoming a programmer. Valdocs allows the user to get the most out of time and energy spent on projects. If some of you think otherwise, then think again! You can spell check. You can interface CP/M programs into the Valdocs environment. You can tie spreadsheets into the Valdocs system. MAIL will send multiple Valdocs files at once, and receive standard CP/M files as well. People, everywhere, are using this computer, and loving it! The fact is, the system works.

As for Valdocs 2.0: is it faster? Is there a spreadsheet? Can it overlay graphs? What about subscript, superscript, pagination, size, style, color monitors, new keyboards . . .

Still working . . . please wait.

*EDITORS NOTE: Colonel Hasci is the pseudonym of a person closely involved with the Epson QX-10. He occasionally calls into the various bulletin boards around the country and leaves answers to individuals' questions. Thank you, Colonel, for your help.*

# Giving Your Epson an IBM Pe

## A Preview of the Titan Technologies "QXPC" Co-pro

by Dan Rourke, University of Michigan

**Product:** QXPC, hardware and software to make your Epson QX-10 simulate the IBM Personal Computer.

**Made By:** Titan Technologies, Inc.
310 West Ann Street
Ann Arbor, MI 48104
Phone: (313) 662-8542

**Function:** The QXPC package consists of the hardware (8088 CPU, 192 K-bytes of memory) and software (MS-DOS, a special CP/M program for the Z-80 CPU in the Epson QX-10) needed to give the Epson almost all of the capbilities of the IBM Personal Computer.

**Intended Audience:** Anyone who wishes to use software written for the IBM Personal Computer which does not work on the Epson, such as Lotus 1-2-3 or Multimate.

**Price:** $795.00 (suggested retail price)

As you are no doubt aware, the hottest ticket on Computerway right now is for the IBM Personal Computer. In fact, the demand for this machine far exceeds the supply and most IBM purchasers must wait several weeks to get their machines. The popularity of the IBM PC has had both good and bad effects on the software being written for small computers. The good news is that users of small computers are confronted with an embarrassment of riches— a large and rapidly expanding collection of excellent programs. The bad news is that nearly all of these programs are aimed primarily at the IBM PC and PC "look-alikes" such as the Compaq and secondarily at computers using the Intel 8086 or 8088 microprocessor and running MS-DOS such as the Texas Instruments Professional Computer, the Zenith Z-100, and many, many others.

A case in point is Lotus Development's 1-2-3. According to *Softalk* magazine, this is currently the hottest selling program for the IBM PC and has been so for several months. 1-2-3 is a spreadsheet program which can accommodate very large work sheets, is quite rapid (it's written in assembler language), is easy to use, has an excellent on-line help facility, and can produce very polished graphics displays. After a few minutes use of this program, it is not hard to see why it sells so well. However, because the program is written in assembler language for the Intel 8086/88 family of microprocessors, it will not run on an Epson QX-10 or any other microcomputer which uses only a Z-80, 8080, or 8085 microprocessor.

The key word here is "only". If the Epson were somehow given another microprocessor to use, such as an Intel 8088, perhaps the QX-10 could use at least some of the software available for the IBM PC. Titan Technologies, an Ann Arbor, Michigan, firm, has done precisely this. Their engineers have designed an add-on board for the Epson (actually it is two boards) which gives the Epson an Intel 8088 microprocessor— the same one as in the IBM PC. In addition, they have provided software which permits the Epson to use Microsoft's MS-DOS operating system— the same system which the IBM PC uses.

Titan's IBM PC simulation package is named "QXPC" and it contains the following components:

HARDWARE: A two board set using two expansion slots in the Epson containing an 8088 CPU, 192 K-bytes of memory (expandable to 256 K-bytes with the addition of a set of eight 64 K-byte ramdom access memory [RAM] chips), and a 2 K-byte read-only memory (ROM).

An additional 256 K-bytes of RAM is available on an optional third board.

SOFTWARE: MS-DOS and additional software support needed to use it on the QXPC.

MS-DOS logically consists of two parts: one part which works on any microcomputer using an 8086 or 8088 and a second part which must be tailored to a specific machine (the BIOS, or Basic Input/Output System). On the QXPC, the BIOS is split between a small program in the ROM on the boards described above and a support program which runs on the Epson's Z-80 using CP/M and supplied on a CP/M diskette. MS-DOS itself is also supplied on a diskette and runs on the 8088 on the QXPC boards.

Insofar as possible, the QXPC mimics nearly all of the features (and quirks) of the IBM PC. Among these are:

* The physical layout of the disk files under MS-DOS is exactly the same as that used by the IBM PC using PC-DOS 2.0 and 2.1. In addition, QXPC MS-DOS can read disks created using version 1.1 of PC-DOS. (We know this for a fact because we have tried it out.)

* The QXPC duplicates almost all of the features of the IBM PC keyboard including the function keys and the cursor movement keys. For example, the Epson Graph shift key is used as the IBM PC's Alt shift key.

* In addition to the characters found on the keyboard, the IBM PC can display accented foreign language characters, some Greek letters, mathematical and technical symbols, and some graphics symbols. The QXPC duplicates as many of these as possible using the Epson's graphics characters.

* The IBM PC provides some low-level support for input, output, and other services in the BIOS. The QXPC duplicates these services in the ROM and the support program running on the Epson's Z-80, and, most importantly, they are obtained in exactly the same way as on the IBM PC.

* Information can be displayed on the Epson's screen using QXPC in the same three ways as on the IBM PC.

# rsonality
# cessor Card

These points are very important because the degree to which the QXPC mimics the IBM PC depends so strongly upon them. For example, the Compaq does nearly everything the IBM PC does in exactly the same way. Consequently, the Compaq can use nearly every program written for the IBM PC. On the other hand, the Zenith Z-100 does not have the same keyboard, the same character set, nor does it provide the same services in the BIOS (although it does use MS-DOS). Usually programs written for the IBM PC will not run on the Zenith Z-100.

The designers of the QXPC have attempted to make it as compatible with the IBM PC as possible. For example, they duplicated in the QXPC the three ways in which a character can be displayed on the CRT screen of the IBM PC.

1. MS-DOS (and PC-DOS) provide a high level service for displaying characters on the screen that is used in the same way in all versions of MS-DOS. If a program written for the IBM PC used only this means of displaying characters then the display should work on the QXPC, the Zenith Z-100, or any other machine using MS-DOS. Usually, this way of writing to the screen is slow and either of the following two methods are used in IBM PC programs.
2. The IBM PC BIOS provides some lower-level services for displaying characters on the screen. These are a little more difficult to use than those provided by MS-DOS but write the text to the screen more rapidly than in (1). An IBM PC program which uses this method would not work on the Zenith Z-100 but *would* work with the QXPC.

Finally, the IBM PC's display is "memory-mapped". That is, if a character is stored into a particular address of the PC's random access memory, then it will also appear at a certain location on the PC's screen. A character stored next to the first character will appear next to the character on the screen, and so on. By changing the contents of these locations in the PC's memory (a very rapid operation), the display on the screen appears to change almost instantly. Quite a few programs targeted for the IBM PC use this feature because the screen displays can be changed so rapidly. The QXPC mimics even this feature of the IBM.

There are two ways that we know of in which the QXPC will *not* imitate the IBM PC. First, BASIC is not provided with QXPC, but it is "built-in" to a ROM which comes with the IBM PC. Second, programs written for the IBM PC which use the serial port (the RS-232 port), communication programs for example, will probably not work. This is because these programs generally use the serial port directly rather than through PC-DOS. The Epson's serial port is accessible only from the Z-80 and not from the 8088 on the QXPC board. Consequently, a program written for the 8088 has no way of directly using the serial port.

Titan has verified that the following IBM PC programs work with the QXPC:

Lotus 1-2-3 (Version 1A)
Microsoft Multiplan
Multimate, Softword Systems
SuperCalc2, Sorcins
Wordstar 3.2x, MicroPro
Wordstar 3.3
PFS Series of "Perfect" programs
VisiCorp's Visicalc Advanced
PEdit
Ashton–Tate's dBASE II
Microsoft Macro Assembler
Microsoft Pascal Compiler
The Norton Utilities (Version 2.0)
Borland's Turbo-Pascal

This list is dated January 31, 1984. More IBM PC programs may have since been added to it. For example, any program which uses *only* MS-DOS services for input and output will work with QXPC. For example, the Microsoft Fortran Compiler will work with it.

If you need to use software written for the IBM PC, but you already have an Epson, it may not be necessary for you to buy another computer. Check to see if the software you wish to use works to *your satisfaction* with the QXPC. If possible, you should make this test yourself and in person. If the performance of the QXPC is satisfactory, it will give you what you need at a fraction of the cost of a PC ($800 instead of $3,000). An additional feature available is that you will be able to use some of the QXPC board RAM like a 112K Ram Disk for CP/M or Valdocs. The QXPC should be available at your dealer by the time you read this issue of the Epson Connection.

---


**DUST COVERS**

**QX-10**

**EPSON & COMREX PRINTERS**

Custom fit clean anti-static machine stitched.

**QX-10 System $ 19.95**
**Any Epson or Comrex Printer $ 15.95**

Calif residents add 6.5 % for sales tax
Shipping $1.00 per cover
check or money order to:

**Morningstar Micro**
**16 California ST. #505**
**San Francisco CA 94111**
Info call (415) 474-4900

# Create Your Own TPM Operating System

**by Ralph Ruh**

We all realize that we have a wonderful and exciting computer and software combination in our Epson QX-10 and the Valdocs integrated software. I am sure that you are aware that the operating system that manages all this fantastic hardware and software is the TPM operating system. The TPM operating system is far superior to the standard CP/M system that was provided to you when you purchased your QX-10. TPM provides you with full access to all 256K of available RAM due to advanced bank switching. Your CP/M 2.21 system will only access 64K of RAM, which limits your use of some larger applications programs. A further advantage of TPM is the superior speed of TPM respecting disk I/O and program execution.

By nature, I am a very inquisitive person and enjoy poking around and exploring various opportunities for other uses of the TPM system. I decided back in April of 1983 to examine how I could use the TPM system without having to boot VALDOCS each time I wanted to run an application program and also have both disk drives available for my use.

With this in mind, let me provide you with a simple procedure that you can easily use to create your own TPM operating system.

To perform this procedure you will need the following:

1. A blank formatted disk that you have created by using VALDOCS COPYDISK to make a data disk or the CP/M utility called COPYDISK.COM which is found on your CP/M Distribution disk.
2. A backup copy of your VALDOCS system disk.
3. A backup copy of your CP/M CP+ disk.

Okay, now let's create your TPM system disk.

Place your CP/M disk in drive A (left drive) and boot CPM. If you have your CP+ system set to auto execute CP+ exit to CP/M after it is loaded. Place your blank formatted disk in drive B (right drive). Now type COPYDISK and hit the return key at the A] prompt. A menu will be displayed and you should select menu OPTION 2. Another menu will appear on the screen of which you should select ITEM 3 and do a return. You will then be presented with a menu asking whether you want to copy system tracks or data tracks or the entire disk. You want to select 'Copy System Tracks'. At this point, remove your CP/M disk from drive A and replace it with your backup copy of your VALDOCS system disk. Now enter 'S' from the menu to begin the transfer of the TPM operating system from drive A to drive B. This will only take a second or two as we are only copying track 0 and 1. You now have the TPM operating system on your disk in drive B. Let's exit out of the COPYDISK program. Remove your VALDOCS system disk from drive A and put the CP/M disk back in. Then enter 'E' and the return key until you are back to the CP/M A prompt.

At this point, I suggest you place the PIP.COM program from the CP/M disk onto the new TPM disk. Do it this way:

A] PIP B:=A:PIP.COM [RET]

That's all there is to it. Remove the CP/M disk from drive A and put your new TPM system disk in drive A and hit the reset button. Your TPM will boot and put you at the A prompt, ready for action.

Now let's take a couple of minutes to explore the features of your new TPM operating system. TPM has built in commands that I am sure you will find interesting and useful when working under the TPM environment. I will briefly give you a few of the nice features so that you can try them out for yourself.

First of all, TPM has a built-in command, called "TIME", which will allow you to get the date and time after executing the "TIME" command at the "A" prompt.

EXAMPLE: A]TIME [RET]
RESULT ] 02/14/84 16:54:25

OTHER BUILT-IN COMMANDS:

A]SPACE [RET]
RESULT ] Will tell you how much space is left on the disk requested.
A]SP B:

A]RENAME

Usage: Use this command to rename one file to another filename.
EXAMPLE: A]RENAME NEWFILE.TXT=OLDFILE.TXT [RET]

A]ERASE

Usage: The erase command is similar to the CP/M command but much more powerful. In addition to erasing individual files, ERA will accept wildcards. You can erase groups of files, using the proper wildcard specification, or you can even erase all of the files on the diskette (within the current user area) with the "*.*" wildcard.

A]PROTECT

Usage: The protect command allows you to select from 7 levels of file protection. In essence, the various protection levels limit how much a file can be modified or changed. I will refer you to "The TPM II Users Guide" for more detailed descriptions of the usage of this nifty feature of TPM.

TPM provides you with 256 different user areas on each disk. To move around in the user areas you simply type the drive followed by the user area you wish to visit and hit a carriage return.

EXAMPLE: Say you wish to go to user area 100 on the "B" drive from the "A" drive. Simply do the following:

A]B100: [RET]

You will now be in user area 100 on the "B" drive. You can verify this by typing "USER" or just "U" followed by a carriage return and you will be given your present location on your CRT.

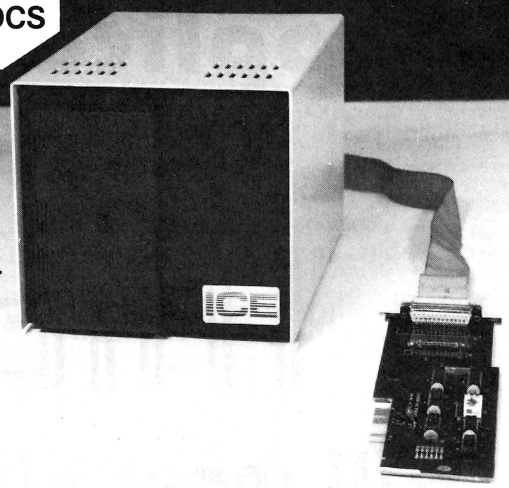
Of course, you have the standard commands available to you such as "TYPE", "DIR", "SAVE", etc. If you enjoy working with the "TPM" operating system as much as I do, I strongly urge you to purchase the "TPM II Users Guide", which is available from Rising Star Industries. Along with the manual you will receive a disk containing the utilities available for "TPM II".

I hope you enjoy using your new operating system and we will be covering some additional features and information regarding this extraordinary operating system in future issues.

---


**Introducing...ICE**
**HARD DISK SUBSYSTEM**

**with CP/M & VALDOCS capability!**




**Complete subsystem with adapter card, controller, cables, power supply, software and installation manual.**

**FEATURES:**

- High Quality
- Reliable Performance
- Rodime Disk Drive
- Automatic Arm & Spindle Lock
- 5 to 84 Megabyte Capacity
- Available for Other Popular Computers

*For additional information or to place an order contact:*

**Space Coast Systems, Inc.**
401 S. Washington Avenue
Titusville, FL 32796
305-268-0872 • Telex: 701506

PROMETHEUS
*PRO-MODEM 1200*

300/1200 (BELL 212A) HAYES OR PRO-MODEM COMMAND SET AND UNDER $400!!!!
VALDOCS 1.18 AND MDM720 COMPATABLE!!

YOU NOW HAVE A CHOICE FOR THE QX-10: HAYES OR PROMETHEUS. THE DIFFERENCE: PROMETHEUS WILL DO EVERYTHING THE HAYES SMARTMODEM II WILL DO AND ALOT MORE! FEATURES LIKE A BUILT-IN REAL-TIME CLOCK, COMPUTER TO MODEM BUFFER, FULL MODEM/CALL STATUS, BUILT-IN HELP MENU, AUTOLINE SENSE FOR TONE OR PULSE DIALING AND MANY OTHER "STANDARD" FEATURES. OPTIONS INCLUDE A PROCESSOR THAT WILL ALLOW UP TO 64K RAM BUFFER, A 12 DIGIT ALPHANUMERIC DISPLAY (GIVES YOU TIME AND MODEM/CALL STATUS IN ENGLISH!) AND A CALL DIRECTORY WHICH CAN HANDLE SPRINT, MCI, ETC. FOR A LIMITED TIME (UNTIL 15 APRIL) COMPUPROD OFFERS THE PRO-MODEM 1200 FOR *$395* + 5% SHIPPING AND HANDLING (TEXAS RES. ADD 6% TAX).

**COMPUPROD**
**2701C West 15th St.**
**SUITE 510**
**PLANO, TEXAS 75075**
Or Call: 214-243-8467 M-F 6am-5pm CST
Visa/Mastercharge Accepted (W/4% Charge)

# Do you need to write sophisticated graphics applications on your EPSON QX-10 ?

# MicroPlot

## will meet all your requirements. This is a graphics package designed for use with Digital Research's industry standard compiler Pascal/MT+.

This combination gives you all the graphics power needed for both business and scientific applications, as well as for general purpose use. Some of its features are:

- *LINES, ARCS, CIRCLES, AND RECTANGLES*
- *DRAWN CHARACTERS AT ANY SIZE AND/OR ANGLE*
- *SCALING, TRANSLATION, AND ROTATION OF OBJECTS*
- *VIRTUAL WINDOWS WITH AUTOMATIC LINE CLIPPING*
- *LOGARITHMIC AND POLAR COORDINATE SYSTEMS*
- *MULTIPLE AND SPLIT SCREENS*

## All this and much more for only $60.

Orders must be prepaid with check or money order payable to MicroNova (sorry, no credit card orders).

MicroNova

R.R. # 5, Canning, Nova Scotia
Canada B0P 1H0 (902) 582-7016

# Starting A Users Group

## Ideas for Future Meetings

### by Ronald Lippitt, Prof. Emeritus, Univ. of Mich.

In the last issue, we looked at a first meeting of a Users Group—how the convenors planned it, what happened at the meeting, and how they got ideas for future meetings.

This issue, let's look at some of the things that might happen at future meetings of the groups. I have drawn my illustrations from meetings of many support groups organized for different purposes.

1. An Open Group With Regular Meetings:

Everyone is free to bring friends. Other owners who hear about the group where they buy machines are also invited. Most groups decide on a monthly meeting; a few groups meet every two months.

When a person decides he or she wants to be a regular member, he pays a modest fee for the year to cover the expenses of mailing, duplication of handouts, etc. (perhaps $30).

Each meeting starts with some way of welcoming newcomers and learning about them.

2. A Flexible But Definite Agenda

At the beginning of the meeting, as members get coffee or tea or juice, there is a sheet where anyone can register a problem or question he'd like to get help with. A tentative agenda, planned by the convenors, is handed out or is up on a wall sheet. There is always a place on the agenda for the special "member-help" requests. Many times the help is in the form of a brainstorm (see rules in Part I).

Usually meetings start with a brief "News Notes" period, giving everyone the opportunity to share information, announcements, and interesting discoveries.

3. When They Meet:

Some groups meet at 7:30-10:00 pm and have coffee, tea, and cookies or other snacks. Other groups start at 5:00 and have a pot luck dinner, giving them a longer meeting time and more chance to socialize.

4. Where They Meet and Who Leads:

Some groups meet in homes, and for many groups one home is most convenient, so they meet there every month. In other groups, they move around to different homes, or even to offices with conference space.

In many groups, there is a natural leader, who the group prefers to have as the regular leader. In some cases, a rotating second member teams up to help plan and lead each meeting. In other cases, the leadership changes for each meeting. This works best when a pair of members plans and leads each meeting.

5. Keeping On The Beam and Interested:

Four practices are most important in keeping the meetings interesting and worthwhile:

*Each meeting has a definite plan.

*That plan is developed from the ideas brainstormed by the group members.

*At the end of each meeting, a few minutes are taken to give feedback on "how we feel about the meeting", "what has been most worthwhile", and "ideas for future meetings".

*Volunteers keep notes on the results and commitments of each meeting and write them up for distribution to the members in the week following the meeting.

6. Activities They Liked:

At the end of a year of meetings, it is a good idea to survey your group to determine the activities that made the meetings most interesting and valuable. Ideas for possible subjects of interest are:

*Presentation of new software by a member or guest.

*Demonstration of a new program written by the group or a member.

*"Clinic" discussions on member problems.

*"Consultative brainstorms" requested by members.

*Reviews of articles, magazines, books.

*Demonstration of new equipment.

*Exchange of successful "tricks" and practices.

*Guest speakers on special interest areas.

7. Linking and Exchanging:

One exciting development in many groups is the beginning of communication and exchange of information with other groups. Link persons can be identified for computer communication. Possibly appointments can be made to communicate at the time of the monthly meetings. Also, groups could make active use of the Epson Connection Newsletter and of Bulletin Boards.

8. Tools and Arrangements For Good Meetings:

Some very simple things can make or break a meeting. One is seating arrangements. People need to be able to see each other, not look at backs as one does in classrooms or sit in a long row like down the side of a conference table. These formats kill good communication.

Another very important feature is to have a conference pad on an easel, or some similar way of visually recording and presenting information. Magic markers are needed, as well as masking tape to hang up the easel sheets on the wall for easy viewing.

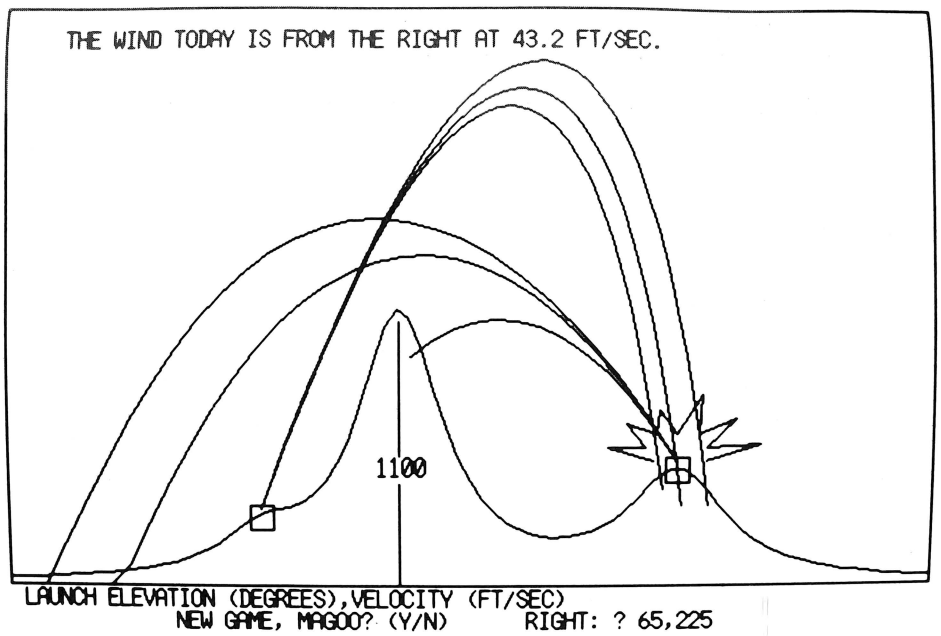
IF YOU HAVE PROBLEMS:

If you have specific questions about your meetings or want advice on a problem, please communicate with Ronald Lippitt via The Epson Conn RBBS 313-823-1425 or 313-663-4740 (office).

**Our updated Users Groups List will appear in our next issue!**

# RSIBASIC For The QX-10

## by Clyde Lindsey




*A photograph of the QX-10 screen, showing the end of a round of Potshot, a game from the early 1970's originally played on Tektronix graphics terminals at Dartmouth College. This RSIBASIC version runs at about the same speed and resolution as did the original.*

Most people who use MBASIC on the QX-10 by now are familiar with certain features , such as inoperative DATE$ and TIME$ functions, no graphics, and a line editor straight out of 1978 that drives you to tears. These tears will soon be needless because Rising Star (you know, the people that brought you Valdocs) is putting on the finishing touches of RSIBASIC, a version of BASIC that has been around for a while, but has been totally integrated with the QX-10. What is more, it does this in COLOR— if you happen to have a color QX-10. Since I have been working with RSIBASIC for a few months, I was asked to write a short description of it for the Epson Connection.

Before starting, you might like to know a little of the history behind RSIBASIC. Back in the old days, that is the 1976-1978 era, a company called Technical Design Labs (TDL) was making good money selling S-100 boards for Altair, IMSAI and other similar computers of the time, along with Z-80 software products. One of these was a version of BASIC.

It so happened that a company from Texas was looking for a BASIC to put in a mass produced computer they had in mind, and had narrowed the competition down to versions from Microsoft and TDL. Microsoft won the contract by underbidding TDL. We all know the rest. The Microsoft version of BASIC became the "defacto" standard for the microcomputer of the world, not that it was terribly different or better than any other version at the time; there were just more machines running it.

In spite of the Microsoft steam roller, a few BASIC interpreters have survived, largely on the basis of technical merit. The "father" of RSIBASIC was in this category.

RSIBASIC is big. It supports over 170 keywords, both random access and sequential files, X-Y graphics including line, circle, rectangle and polygon area fill (with a pattern), turtle graphics, 16 character and graphics fonts, multi-bank operation and more.

There are a lot of utility features built into RSIBASIC. Most of the TPM file oriented commands such as SAVE, ERASE, DIRectory, etc, can be used directly. In fact, except for RENAME, all use the same syntax rules as TPM. (Why didn't Microsoft think about this a long time ago?) The DIRectory command has an added feature— if you type "DIR *" only filenames with the extension .BAS will be listed.

Two particularly interesting file oriented operations are the RESAVE command and the LOOKUP function. RESAVE automatically makes the current disk copy of a BASIC program into a backup file, then saves the current version in memory under the old filename. A neat, simple and quick way to save both the old and new versions of a program being revised.

The LOOKUP function can be used in a program to scan the disk directory and report if a particular file is on the disk. This lets a program intelligently decide if a file should be created or not, or if a different filename should be used, should it already exist.

Three display screens are supported by RSIBASIC. On color QX-10 computers, all are combined character-graphic screens. On standard QX-10 computers, only the first screen can display both graphics and characters. The second and third screens are character oriented only. Screen 3 is a "window" screen. It can be set for screen lengths between 0 and 16 lines, then overlayed on either screen 1 or 2. Data covered by screen 3 is not lost, and reappears after it is removed.

The DISPLAY statement controls which screen is shown on the QX-10 monitor. The SCREEN statement directs console output to one of the three screens. It is possible to write something on one screen while another is displayed.

Some particularly useful screen handling statements allow rectangular sections of screens to be saved as files for output to the printer (they are in Valdocs format) or used later. When recalled, the saved image can be placed anywhere on the screen, not just in the location it was saved from. Another interesting screen command allows a rectangular section of the screen to be saved in one of two memory buffers. Images from these buffers can then be placed anywhere on the screen, allowing sections of the graphics screens to be rapidly moved about.

Screen graphics statements automatically draw circles and arcs, rectangles and lines. Areas entirely surrounded by a border can be filled with a pattern. Turtle graphics commands in-

clude MOVE, MOVETO, TURN, TURNTO, DRAW and DRAWTO. The RSIBASIC and color QX-10 computers support 8 colors, but patterns of finely mixed colors yield additional "shades" of colors.

Sixteen character and graphics fonts can be used on the graphics screen. These include combinations of normal, bold, italic, compressed and super/subscript characters. The VPRINT statement allows character strings to be displayed on the screen at various angles and sizes, useful for labeling graphs or charts.

The SOUND command lets you compose music or make noise (some call it sound effects) on the QX-10 loudspeaker. Frequencies in the range of about 30 Hz and above can be generated with durations up to nearly a minute.

RSIBASIC offers the usual collection of string handling and numeric functions. Of particular note are a number of hexadecimal string functions, allowing hex numbers to be automatically converted to decimal and used. All numeric operations are carried out with 12 digit floating point precision. (Only 11 digits are displayed, with the 12th used for internal rounding.) This gives better precision than ordinary "single" precision, but is faster than "double" precision arithmetic. No integer arithmetic operations are provided, although integer numbers can be produced any time. Internal functions produce PI and the number E (the base for natural logarithms) to 11 decimal places whenever needed.

Program editing is done with a line editor that allows full use of the Valdocs editing keys. The UNDO key can be used to recover the original line should your editing get out of control.

A lot of people probably wonder about compatibility between various versions of BASIC. Relax— there isn't any. Most "common" RSIBASIC functions are identical with those of other BASICs, but special commands, like those dealing with graphics, are organized in their own special way. Some effort was made by RSI to be compatible with MBASIC. For example, the LLIST and LPRINT statements, functionally equivalent to other RSIBASIC output statements, were obviously added for compatibility. (RSIBASIC features a rather sophisticated I/O system, unlike anything from Microsoft.) Many, if not most, BASIC programs of any size being transported from a different computer or version of BASIC will have to be adapted or modified in some way to run with RSIBASIC.

RSIBASIC comes with an IBM-sized reference manual of over 350 pages, and a floppy disk ready to pop in your QX-10. The manual describes how RSIBASIC works, and is definitely NOT a tutorial! The disk contains several BASIC demonstration programs and graphics versions of Lunar Lander and Potshot, an "over the hill" artillery battle adapted from the original Dartmouth game as shown on the facing page.

Although distribution plans are not complete, RSIBASIC should be ready and available sometime in April. Call or write Rising Star for information on price and availability. Rising Star Industries, 24050 Madison Street, Suite 113, Torrance, CA 90505, Phone: (213) 378-9861.

P.S. Oh, yes, the DATE$ and TIME$ functions do work on RSIBASIC.

PUT YOUR MESSAGES HERE IN MINUTES
Reduction of an actual sign
Fight fatigue with a padded rest for your wrists. You'll be amazed at the difference!
Rist-Rest
$29.95 (QX-10)
Also available for other computers
The Banner Machine™ —$79.95
The Banner Machine™ is an easy-to-use menu-driven program that operates like a word processor. Print signs in minutes for retail businesses, medical offices, schools, or any organization with a need for large, eye-catching signs. Create greetings for celebrations in the home, signs for student elections, and professional-looking reports for school.
Makes signs up to 10" tall by any length.
Borders are variable, up to ¾" wide.
Eight sizes of letters are available from ¾" to 6½" high.
Additional fonts are available:
Condensed Gothic, Tombolina, and Holiday Symbols (11 symbols: Christmas tree, Hanukkah Menorah, cross, bell, horn of plenty, heart, shamrock, jack-o-lantern, birthday cake, flower, and star of David.)
Proportional spacing, automatic centering, right and left justification.
Standard and Compressed modes of print.
Inverse print upside down and backwards enables the user to print labels on banners, fold them in half, and hang them over display tables or make name placards for conference tables.
Reverse printing: the background is black and the letters are the color of the paper used to print the sign. This one is especially attractive using colored paper.
Use with the FX or RX printers on the QX-10. Not currently available for the MX.
AMERICAN EXPRESS
MasterCard
VISA
Cardinal Software
Virginia Micro Systems, 13646 Jeff Davis Highway, Woodbridge, VA 22191
(703) 491-6502; Hours: Mon-Fri 10 to 4

# The Epson-Net Network

## USER AREAS

A user area can be thought of as an imaginary area on your disk where files with that user number reside. If you exit to TPM from Valdocs, and type the letter U at the A], you will get a response of User 0. If you type A1: at the A] you will be in User 1. TPM can access 256 user areas on a disk. This does not mean you suddenly have all sorts of extra space. This is a convenience to users who perhaps have a hard disk drive and want to separate certain types of files or letters in separate areas. This can be helpful if two or more people are using the same programs and disks. Each person can keep his files on a different user area, and therefore not take the risk that another person will accidentally erase his files. There are 16 users areas available in CP/M versions 2.0 and 2.21. If you have used Valdocs 1.xx series and used the Quirks menu (control Q as long as you are in an advanced experience mode or above) you will have noticed an option [L]og in different disk drive. You can select area 1 on the B drive by typing in B1. This will get you into a different user area. **Caution— once you have saved or stored a file into a user area, and then change to another area, the command DIR will only show you the files in that particular user area you are currently logged into. There is a directory listing program for TPM-II which will allow you to list across all the different user areas and display all the files present on the disk. This program is called LIST.SYS. To display all the files and user areas with this program do the following: A]LIST *:*.* (return) Another feature available with user areas is the ability to move files from one user area to another. The utility program that does this with TPM-II is called ZPIP.SYS. For example, if we wanted to move a file called EWOKS.SYS from user area A0 to user area A4, we would type in the following: A]ZPIP A4:=AO:EWOKS.SYS.

You must list the place it is going (destination) first, and then where it currently is (source) second, with the filename and extension last.

List.SYS and ZPIP.SYS can be obtained along with all of the presently available TPM-II Utility programs from Rising Star Industries as a bonus for ordering their TPM-II User's Guide ($21.00). Rising Star Industries, 24050 Madison St., Suite 113, Torrance, CA 90505.

## RBBS/RTPM

EpsonLink settings should be as follows for accessing the Epsonet RBBS/RTPM Systems— 8 bits No Parity.

Uploading files using Valdocs Mail to the RBBS/RTPM: Use XMODEM RC filename.ext— this puts the computer in checksum mode which is the mode that Valdocs Mail uses for transferring files.

'The Espon-Net Network': RBBS/RTPM Systems List

WESTERN STATES

| | |
|---|---|
| Los Angeles Rbbs/Rtpm<br>Los Angeles, California<br>5PM to 9AM PMT, Mon. - Sun.<br>The Barian Company | M. Mehterian<br>(213) 453-2470<br>300 Baud |
| San Diego Rbbs/Rtpm<br>San Diego, California<br>24 Hours | Andrew Ross<br>(619) 440-7491<br>300 Baud |
| Oregon Rbbs/Rtpm<br>Portland, Oregon<br>24 Hours 7 days per week | Gary Wells<br>(503) 281-7653<br>300-1200 Baud |
| Washington Rbbs/Rtpm<br>Port Orchard, Washington<br>7pm - 7 am 7 days | Bob Boyce<br>(206) 876-9053<br>300/1200 Baud |
| Denver RBBS/RTPM<br>Denver, Colorado<br>Hours to be announced | Michael Johnson<br>(303) 249-1400<br>300/1200 Baud |

NORTH CENTRAL U.S.

| | |
|---|---|
| Madison Wisconsin Rbbs/Rtpm<br>Madison, Wisconsin<br>10PM to 2AM, Mon. - Sun. | Geoffrey Turney<br>(608) 233-1111<br>300 /1200 BAUD |
| Milwaukee Rbbs/Rtpm<br>Wauwatosa, Wisconsin<br>12PM-4PM, 6PM-12AM M-S | John Hirsh<br>(414) 476-2995<br>300 Baud |
| Northwestern Indiana RBBS/RTPM<br>Portage, Indiana<br>6PM to 12AM EST, Mon. - Fri. | Ralph Shaffer<br>(219) 762-5620<br>300 Baud |
| Southeastern Indiana<br>Aurora, Indiana<br>7AM to 7PM EST, Tues. - Sun. | Franc LaClair<br>(812) 926-3396<br>300 Baud |

CENTRAL STATES

| | |
|---|---|
| The Epson Connection<br>Detroit, Michigan<br>24 hours 7 Days<br>The Epson Connection | Carolyn McCarthy<br>(313) 823-1425<br>300/1200 Baud<br>20Meg Hard Drive |
| Central Ohio Rbbs/Rtpm<br>Lancaster, Ohio<br>6PM to 2AM EST, Mon. - Fri.<br>10AM to 12AM EST, Sat. - Sun.<br>Network Coordinator | Ralph Ruh<br>(614) 687-6413<br>300/1200 Baud |
| Chillicothe Ohio Rbbs/Rtpm<br>Chillicothe, Ohio<br>24 Hours | Tom Fosson<br>(614) 774-6683<br>300/1200 Baud |
| Northwestern Ohio Rbbs/Rtpm<br>Greenville, Ohio<br>6PM to 12AM EST, Mon. - Fri. | Allen Howell<br>(513) 548-3326<br>300/1200 Baud |
| Mansfield Rbbs/Rtpm<br>Mansfield, Ohio<br>5:30pm-8am Mon-Fri<br>Sat 1pm-Mon 8am | David Conant<br>(419) 522-5050<br>300/1200 Baud |

SOUTH CENTRAL U.S.

| | |
|---|---|
| Dallas Rbbs/Rtpm<br>Dallas, Texas<br>24 Hours<br>20 MEG HARD DISK | Ron Spatafora<br>(214)-881-0313<br>300/1200 Baud |

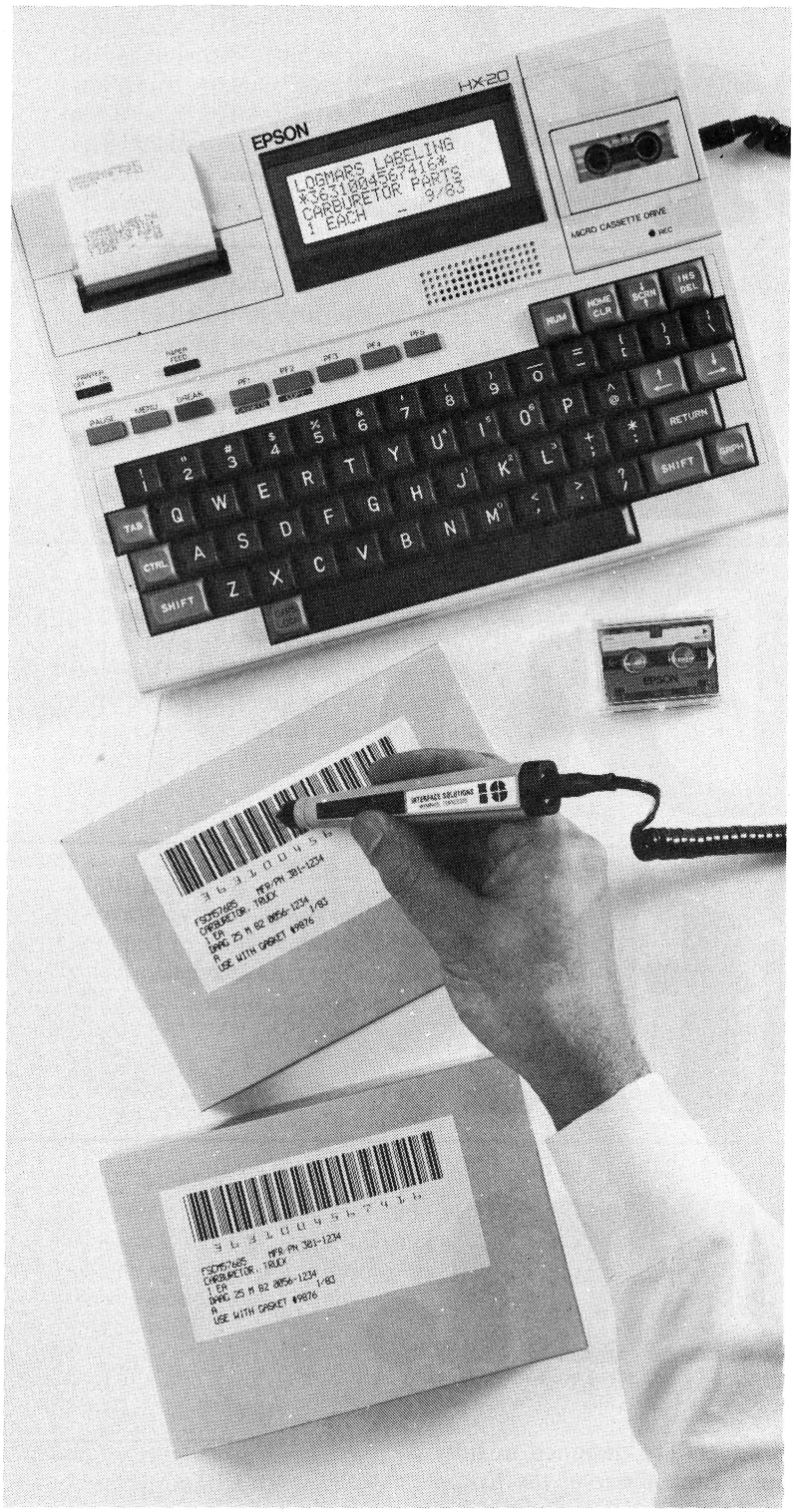
EASTERN STATES

| | |
|---|---|
| Sussex New Jersey Rbbs/Rtpm<br>Sussex, New Jersey<br>Mostly weekends<br>During the day weekdays | Ken Menzel<br>(201) 875-2635<br>300-1200 Baud |
| West Chester Rbbs/Rtpm<br>West Chester, Pennsylvania<br>9PM - 8:30AM M-S | John DeMillion<br>(215) 692-7502<br>300-1200 Baud |
| Baltimore Area Rbbs/Rtpm<br>Perry Hall, Maryland<br>8PM - 6AM M-S<br>Will go to 24 hours soon | Steve Hendricks<br>(301) 256-8012<br>300-1200 Baud |
| Washington D.C.Area Rbbs/Rtpm<br>Laurel, Maryland<br>8-11 p.m. M-F,10 am-4 pm S-S | Michael Delaney<br>(301) 490-6860<br>300 Baud |

SOUTHEASTERN STATES

| | |
|---|---|
| Nashville QX Rbbs/Rtpm<br>Nashville, Tennessee<br>24 Hours, 7 days per week | Rick McCollister<br>(615) 356-3750<br>300-1200 Baud |
| Louisville Rbbs/Rtpm<br>Louisville, Kentucky<br>Call board for hours | George Puckett<br>(502) 239-2457<br>300-1200 Baud |
| Carolinas Rbbs/Rtpm<br>Troutman, North Carolina<br>7am-9pm, 7 days per week | Thomas P. Winslow<br>(704) 528-6687<br>300 Baud |
| Northeastern Georgia Rbbs/Rtpm<br>Watkinsville, Georgia<br>24 Hours 7 days per week | Kevin Knight<br>(404) 769-6094<br>300-1200 Baud |
| North Florida Rbbs/Rtpm<br>Jacksonville, Florida<br>24 HOURS 7 Days | William Cuartero<br>(904) 356-1655<br>300 /1200 Baud |

# WE'VE MADE BAR CODE AFFORDABLE.




Our complete bar coding system is more affordable than many systems with less computer power. It gives you unmatched accuracy and reliability to make inventory control and other data collection easier and faster than you ever dreamed possible, regardless of what kind of business you're in. This new system works perfectly in retail stores, warehouses, hospitals, libraries, publishing firms, military installations, shipping and handling departments, manufacturing plants, and even blood banks. If you need to keep up with materials, information, or people, it'll work perfectly in your business, too.

## COMPLETE SYSTEM.

Everything you need is in one easy-to-use system.

**A portable Epson HX-20 Notebook Computer (it weighs less than 5 pounds and fits into a briefcase yet it has a full-size keyboard, a built-in screen, microcassette tape drive, continuous memory, and RS-232 interface capability with a host computer)**

**Our exclusive software that can be easily adapted to your particular needs**

**High-quality bar code symbols printed by an Epson FX-80 printer that's driven by the HX-20.**

**The IS Wand with its amazing scanning accuracy**

With our system, you won't have to shop around for software to fit your hardware or vice versa. The IS package has everything you need for the most reliable and accurate portable data collection system available today.

## EASY TO USE.

After the BASIC programmer has designed the application to meet your specific needs, it takes only minutes to learn how to become a proficient scanner. Just plug the IS Wand into your Epson HX-20 Notebook Computer and pass the wand over the bar code. The wand instantly reads and records the information stored on the code to eliminate the tedious job of recording the information by hand. Plus, you get up-to-the-minute data any time you need it to help you make better decisions faster.

## COMPLETELY PORTABLE.

Our system is so light and compact it's easy to take anywhere —the warehouse, a branch office, your other store, or even out of town. Your HX-20 computer is powerful enough to run on its internal power supply for over 50 hours and recharge in less than eight. Plus, you can use it all day, shut the unit off, and the computer will "remember" every bit of information you fed into it.

## FAST AND ACCURATE.

Keyboard entry results in a human error every few hundred keystrokes, even with the most efficient operator. Bar code entry reduces mistakes to one error for every few *million* scans!

Our system reads high to low density bar code from 3 to 30 inches per second with a first-time read rate that exceeds 90%.

## OUR SOFTWARE.

- The IS bar code utilities are provided on microcassette
- All utilities are written in machine language and BASIC demonstration programs are included
- Two packages are available:

  **SuperPac I** - Read and Print Code 39, Interleaved 2 of 5, & Codabar; OCR-a; and KBX

  **SuperPac II** - Read and Print UPC & Plessey; OCR-b; and KBX
- All readers are autodiscriminating
- Each package provides the ability to print the respective symbologies on most Epson printers with variable height and contrast
- OCR may be chosen as an eye readable font where required, such as LOGMARS or UPC labeling
- KBX Keyboard Control Routines provide the programmer with keyboard and display control for developing user friendly applications software

NEW!

**INTERFACE SOLUTIONS, INC.**

1710 Shelby Oaks Drive North • Suite 21
Memphis, Tennessee 38134
(901) 372-3764

# There's More To Do With Acorn.

Not affiliated with Acorn Press.

**Our educational and entertainment products are designed to fully utilize the high resolution graphic and sound capabilities of the Epson QX-10. All of our products are accompanied with an "auto-boot mini-operating system" and comprehensive documentation so that they are easy to use and simple to understand.**

©1984 ACORN PUBLISHING, INC.

**Logo Professor**
An educational graphics oriented programming language which incorporates "turtle geometry" and sound. Simple, easily understood commands are used to build procedures which can manipulate words, lists, numbers, logic and graphics. An excellent learning tool for computer concepts, geometry and graphics.

**Laser Tanks**
Battle against an army of enemy "Laser Tanks." All of the tanks are armed with laser cannons. Stock up on supplies by commanding the tank through the battlefield to collect additional fuel and ammunition cannisters before they change into time bombs.

**Reading Professor**
The Reading Professor is a newly developed speed reading course designed to increase your reading speed while improving your comprehension. Each lesson introduces speed reading techniques and exercises designed to teach you proper reading habits. Individual student profiles are maintained by the program which record your learning progress.

**Bumper Cars**
Maneuver the "Bumper Car" to push the opposing cars into the highlighted walls. Accelerate, turn and leave oil slicks to protect yourself and beware of the bulldozers.

**Typing Professor**
Typing tutorial designed to improve both speed and accuracy. Challenging instruction for all levels of typists with twenty-four levels of difficulty. Right and wrong answers are reinforced with sound effects and animation.

**Convoy Attack**
Accept a mission into enemy territory to prevent the convoy from reaching its destination. Your fighter will be equipped with bombs and air to air missiles to fend off attacks from enemy aircraft.

**Math Professor**
Twenty levels of speed and accuracy drills designed to reinforce basic skills necessary to solve mathematical equations including addition, subtraction, multiplication and division.

**Star Destroyer**
Your mission is to destroy the meteors and to eliminate the attacking aliens which are hiding within them. Watch out for the aliens, they multiply when they are hit!

**"21" Mentor**
An easy and entertaining method to improve your Blackjack strategy. "21" Mentor allows you to specify the playing conditions and advises you of the correct move.

**Falcon Adventure**
You are Mintan, bird in the wild, struggling to defend both your life and that of your offspring, Aardav. Young Aardav relies on you to seek out food and to protect him from predators.

**Underground City**
Protect the "Underground City" from the invading aliens. If the aliens break through the doors the city is doomed. The aliens are destroyed by maneuvering the crosshairs over the target and firing from one of the laser bases.

# And more to come.

ACORN PUBLISHING™

For more information and dealer nearest you write:
1335 W. 134 Street, Gardena, Ca. 90247

# NEW PRODUCTS HX-20

## HARDWARE FOR HX-20

Stable Technology, G.W. Smith Associates, 62 North Chapel St., Newark, DE 19711. Phone 302/738-7308.

Stable Technology has announced two new HX-20 products. HX-FORTH Compiler with the following features: floating point arithmetic, compiler, array and record structured variables, source code editor, trace/debug mode, and micro-cassette control. $195.

## ST-2 ANALOG INTERFACE MODULE

This is an expansion module which is plug-compatible with the HX-20. This module has up to 32 analog inputs which can be read at high speed (up to 20,000 conversions/sec) with 8 bit resolution or at lower speeds with 12 bit resolution. There are up to 32 relay or logic outputs. These are open-collector outputs. This module can be mounted under the HX-20. Many options are available with this system. Varying amounts of additional RAM up to 114K of ROM and RAM with battery back-up can be achieved.

G.W. Smith Associates also distributes QX-10 CP/M software.

## STOCK PORTFOLIO MANAGEMENT

This is a new release by Brian. This program allows you to create, update, and report on the current status of a stock portfolio. You can follow up to 450 different stocks with 16K, and 1250 with the 32K version. The entire program is menu-driven for ease of use, with "Goof-Proof Entry" for all questions to eliminate typographical errors. There are several report options including: alphabetical listing of the stock tickers stored in memory, detail on stock updates with printing options, and a graph to display up to 100 different stock values. The graph is displayed on the LCD screen or printed out by the microprinter. For more information, or for a complete catalog of other software, contact Brian Lomasky, 984 Hanover Rd., Meriden, CT 06450.

## HX-20 MEMORY EXPANSION

Information Management Group, P.O. Box 2890, Satellite Beach, FL 32937, Phone: 305/773-8322.

Information Management Group has announced that they have extended memory cards for the HX-20. These go inside the HX unit and attach to the main board. The current units are 16K, $159; 48K, $399. The units use CMOS technology resulting in negligible power usage. The XM/16/48 is a 16,384 byte, 8 bit random access memory expandable to 49,152 bytes. This expansion unit is memory-mapped, and allows bank switched memory access. (We will be including a review on this product in a future issue.)

## HX-20 INTERNAL EXPANSION MEMORY BOARDS

Sterling Software, Isle of Man Ltd., Deaks Cottage, Laureston Manor, Douglas, Isle of Man, 0624-25463.

Sterling Software is selling various expansion boards that go inside the HX-20. They have a 48K board, and 192K board. Their board accepts EPROMS in socketed areas available. They are working on a Z-80 processor which will be on their memory boards soon. Interested parties can contact them directly.

## HX-20 SOFTWARE

Transam Microsystems Ltd., 59/61 Theobold's Rd., London, England WC1X 8SF.

Intelligent Terminal Emulator ITE+ and Full Text Editor Package. This is a ROM based program. $95. U.S. This allows the printing out of a full 80 column line sideways in 18 line blocks. The screen editor uses the virtual screen of the HX.

Other software packages available include: Spreadsheet— Epsoncalc, M list, Card Index, Data Capture program.

Hardware— Transam Parallel interface for allowing the HX-20 to print to an external parallel printer.

## MICROSTOREHOUSE HX-20 TAPE FILE BUILDER

This program can merge with Epson Skiwriter text generator and editor to allow personalized correspondence to be combined with stored tape files, on standard size letter quality output. TFBUILDR allows the entry of address information for saving data on a sequential address file. A file of approximately 60 contacts can be maintained and edited per tape. LETRHEDR allows the production of personalized letter headings obtained automatically from the microtape file. For more information contact Micro Quality Portable Solutions, Box 1735, Waterville, VT 05492.

## HX-20 SOFTWARE

A package of four programs for the HX-20 is available. This set is available for $35.00. It includes: (1) Tape Directory Program. It is designed to go on each tape the user has, and can be updated by modifying the data statements. This will automatically load any program on the tape at the user's request. (2) Phone number program. (3) Message center. This will store and edit messages in the ROM and print out the day's messages upon request. (4) Alarm clock program with a snooze feature. These are written in basic and can be modified by the user to satisy his individual needs. For more information contact Windgate Studios, 28 Windgate Drive, New City, NY 10956.

## CAVEHUNT No. 309

This is a new program by Jason Rich. It is an action game on the HX LCD screen. A man has to dodge snakes and pits, while reaching his goal and collecting gold on the way. Available on standard cassette and micro-cassette. For more information contact Software Riches, Riverview Terrace, Irvington, NY 10533.

# NEW PRODUCTS QX-10

## QX-10 GRAPHICS DESIGN TOOL QX-DRAW

American Small Business Computers, 118 South Mill St., Pryor, OK 74361. Phone 918/825-4844.

This is a new user-friendly graphics program for designing and drawing figures and blueprints. Figures can be slanted, stretched, inverted and repositioned. Text can be manipulated as well. Draw circles, ovals, and lines. Drawings can be merged, and the size can be changed. Available now, dealer enquiries encouraged. $119.95. (We will be reviewing this product soon.)

## BUSINESS ACCOUNTING

Champion Software Corp., formerly Data Base Research Corp., has produced a menu driven accounting sytem with five modules. Entitled General Ledger, Financial Statements, Accounts Payable, Accounts Receivable and Inventory and Payroll, they retail for $495 each. There is an automatic recovery program that can put the books back into balance if the computer crashes, as well as many other help functions. For more information, contact Champion Software Corp., 66 S Van Gordon, Lakewood, CO 80228. *They are currently looking for new dealers.*

## QX10 SPECIALTY SOFTWARE

ADS Software, Inc., P.O. Box 13686, Roanoke, VA 24036, Phone 703/344-6818.

ADS has a full range of small business accounting software. Specialized software is available for churchs to handle membership and contributions, private membership clubs, retail florists receivables, veterinarians accounting, and to meet contract services billing and general ledger needs. New products from ADS includes job cost/labor distribution and retail stores accounting systems. The products generally cost in the $500-$900 range.

## AGRICULTURE SOFTWARE FOR THE QX-10

FBS Systems, Box 201, Aledo, IL 61231, Phone: 309/582-5628.

TransAction— a financial record system based on Illinois Farm Business Farm Management income and expense categories. VisiCalc is a 12 month cash-flow budget which interacts with TransAction.

Market Window, Sow Audit 2.2, Herd Audit 2.2, Depreciation Plus, MicroMixer, and Dairy Diary are additional specialized software packages available. The prices for individual packages range from $350 to $695.

## QX-10 COMMUNICATIONS - BLAST

This communications package will allow most micors and minis to communicate with each other. Both computers have to be running Blast. Features include simultaneous send and receive with error-checking, act as a smart or dumb terminal and can operate unattended. Blast will allow the exchange of data between different computers with different operating systems. Suggested retail price is $250.00. For more information contact Communications Research Group, 8939 Jefferson Highway, Baton Rouge, LA 70809.

## PERSONAL PEARL

Personal Pearl is a program generator software package wich allows you to customize your own programs, reports and forms. You can create a data base and library of programs as you use it. The program will interface directly with WordStar and Super Calc. There is also a complete accounting package available called Accounting Pearl wich includes general ledger, accounts payable and receivable, payroll and inventory. The packages retail for $295 and $494 respectively. For more information contact Pearlsoft, a division of Relational Systems International Corp., 25195 SW Parkway, Wilsonville, OR 97070.

## DUST COVERS

Clear anti-static dust covers are available for the QX-10 system at $19.95 and for the Epson or Comrex printer at $15.95. Include $1.00 to cover shipping. Contact Glen Reed of Morning Star Micro, 16 California St. No. 505, San Francisco, CA 94111. California residents add 6 1/2% sales tax.

## MAINFRAME CONNECTIONS WITH PCI

PCI's communications converters were demonstrated at COMDEX. This system allows the QX-10 to connect to IBM mainframe systems with SNA? SDLC protocols. With PCI your QX-10 can emulate an IBM 3271 bisync terminal. The company has a wide range of systems starting at $1850.00. Contact Protocol Computers, Inc., 6150 Canoga Avenue, Woodland Hills, CA 91367.

## COMRITER CR-III

Comrex has introduced a new daisy wheel printer, the CR-III. The CR-III has a carriage width of 132 columns, and a print speed of 23 CPS (Pica Pitch, Shannon Text). It has a 5K buffer. The CR-III has optional cut sheet feeder, and tractor feed. The retail price is around $1000.

## PSUEDO-RAM DRIVE PROGRAMS

These programs use available RAM (random acess memory) which is available in the QX-10, and create a pseudo disk drive usually called drive M sometimes C. The new CP/M 80 release B from Epson America includes this feature. Programs which run directly in RAM memory run very quickly. RAM is called volatile memory because if you turn off the power, any information there is lost. You can store program information onto your regular disk drives from the RAM drive before turning the unit off. For more information contact Computronics Inc., 200 Benten St., Stratford CT 06497, ask for "RAM Drive" $24.95. Micro Nova, RR No. 5, Canning Nova Scotia, Canada B0P 1H0, ask for Micro RAM, $25 postage pd.

# HX-FORTH . . .

## The language of choice for volume HX-20 applications.

*HX-Forth* ***cuts down on program development time,*** *sometimes by a factor of ten! It encourages structured programming and is both interactive and modular.*

*It is based on the fig-FORTH language model; but the similarity ends there. HX-FORTH has been specifically designed to work on the Epson HX-20. It is a compiled, high-level language, an operating system, and a set of development tools rolled into one easy-to-use package.*

### HX-FORTH Is For Real-Time Applications.

*HX-FORTH is the ideal choice for applications involving data communications, storage/retrieval, data acquisition, or when special purpose hardware must be interfaced to the HX-20.*

*HX-FORTH is FAST, much faster than BASIC, and almost as fast as assembly language. For really time-critical routines, HX-FORTH has a built-in Assembler which links machine code to the high-level code.*

*HX-FORTH code is* ***COMPACT.*** *In fact, applications require LESS memory space than assembly language programs!*

### HX-FORTH Has Many Features

*HX-Forth is different from other implementations of the FORTH language because it has been written specifically for the Epson HX-20, and because it includes a number of enhancements:*

***Array and Record Structured Variables*** *help to organize data so that it can be conveniently stored and retrieved on the Microcassette in random fashion, using the File Manager Routines.*

***HX-FORTH Compiler*** *which converts the high-level source code to fast, compact, run-time code. The code can be put into RAM, PROMs, tape or disk.*

***Floating Point Arithmetic,*** *as well as 20-digit integer arithmetic for exacting computations. Floating point compares, float-to-ASCII, integer-to-float, etc.*

***Microcassette Control*** *words allow the programmer to store and retrieve full "screens" on the tape drive in a random-access fashion, just as if it were a disk. Disk support is also available.*

***Source Code Editor*** *using either the built-in screen, or an external "dumb" CRT terminal for full-screen editing.*

***Trace/Debug Mode*** *single-steps thru definitions and traces the history of execution of a word.*

### How is HX-FORTH Distributed?

*It is distributed in one or two 8K PROMs, which are installed in the HX-20.*

### Order your Personal copy now for $195

### Volume Users and OEMs

*Stable Technology can help customers get their application running. We will even write your program and design special-purpose hardware if necessary.*

MasterCard VISA®

*Available from:*
*G.W. Smith Associates*
*62 N. Chapel Street*
*Newark, DE 19711*
*(302) 738-7308*

*Dealer inquiries invited.*

STABLE TECHNOLOGY, INC.

# A Universal Disk Format

## by Mike Dilbeck

UniForm started life because a California Kaypro dealer was unable to get software for his customers in Kaypro format. His solution: write a program that allowed the Kaypro to read and write to other computer systems formats.

UniForm is a disk formatting and drive configuring utility program distributed by MicroSolutions, 125 S. Fourth St., DeKalb, IL 60115. Phone: 815/756-3421.

With UniForm, you can format disks for systems other than your own, and you can read and write to disks with those formats. At present, UniForm is available for the Kaypro, Osborne, Actrix (formerly Access) and the Epson QX-10.

I have used UniForm with my Epson QX-10 and have talked with other users of UniForm on other computer systems. UniForm is exceedingly easy to use. First, boot up with UniForm in the left drive of your system. Type: UNIFORM(CR) The first screen of UniForm's menu driven operation is displayed:

UNIFORM BY MICRO SOLUTIONS

1. SETDISK
2. INITDISK
3. MS-DOS/PC-DOS[-]CP/M FILE COPY

Which program would you like (or RETURN to quit)?

At this point you decide whether you want to configure your right drive to one of the 37 types available (option 1) or to format a disk to one of the types available (option 2), or to do a CPM/MS-DOS/PC-DOS file transfer (option 3).

Assume that you are going to do what I did recently. Sam Silverman of the Atlanta Computer Society has the ACS copies of SIG/M and CP/M user's group public domain disks (8 inch format) available. If I want to get a copy, I can transfer the programs one at a time over the telephone by modem, a process that would take several hours. Sam can transfer the 8 inch disk to Z100 5-1/4 inch floppy disks. I asked Sam to copy a SIG/M disk to Z100 format. I inserted it in my right drive, and selected SETDISK from the menu above. Then I accessed the second menu and a third as shown:

SINGLE SIDED FORMATS-MENU 1 OF 2

FMT DESCRIPTION:

A DEC VT180 (DD)
B OSBORNE 1 (DD)
C KAYPRO II
D XEROX 820-II (DD)
E TRS-80 MOD III/CP/M
F IBMPC (CP/M-86SS)
G MORROW MD2
H NEC PC-8001A
I ZENITH Z-90 (48TPI)
J HEATH W/MAGNOLIA
K SUPERBRAIN (JR)
L SUPERBRAIN (40trkSS)
M CROMENCO I/T CP/M
N ACTRIX (SSDD)
O LOBO MAX-80 (DD)
P TI PROFESSIONAL (DD)
Q MSDOS/PCDOS (VER 1)
R MSDOS/PCDOS (VER 2)

Which disk format or menu would you like (or RETURN to quit)?

**You can format disks for systems other than your own**

DOUBLE SIDED FORMATS-MENU 2 of 2

FMT DESCRIPTION

A EPSON QX-10
B TELEVIDEO
C KAYPRO 4/10
D HEWLETT PACKARD HP-125
E OTRONA ATTACHE
F IMS 5000
G SANYO
H IBM PC (CP/M-86DD)
I MORROW MD3
J NEC PC-8801A
K ZENITH Z-100 (DD)
L DATAVUE (DSDD)
M SUPERBRAIN (QD)
N MAGIC COMPUTER
O ACTRIX (DSDD)
P CROMEMCO I/T CP/M
Q MSDOS/PCDOS (VER 1)
R MSDOS/PCDOS (VER 2)

Which disk format or menu would you like (or RETURN to quit)?

I selected FMT K from menu 2 and UniForm configured my right drive to Z100 format. Any time that you hit a control-C or complete running a program, the screen displays a "right drive set to ZENITH" message. The right drive remains configured until the system is turned off or the system is reset. I inserted a formatted QX-10 disk in the left drive and copied the programs using PIP. While configured under UniForm, the right drive functions exactly as any other drive would.

The 3rd option on the original menu screen is used to do file copies from MS/DOS TO CPM,PC/DOS TO CPM or vice-versa.

The program executes easily and quickly. The menu screens step you through the operation so easily that you really don't need the 12-page manual that comes with UniForm.

There is one potential problem area which is fully explained in the manual. Some manufacturers did not follow disk formatting specifications closely enough. Disks created on some machines may not read on a system using UniForm, although disks created with UniForm can be read from or written to those machines or the machine using UniForm. The potential problems are in the: Kaypro II,4, and 10; TRS-80 mode 1 3(Memory Merchants CP/M); Intertec Superbrain; Lobo MAX-80; or Cromenco.

The only quibble I have with UniForm is that after formatting a disk, it is not possible to return to the first menu screen to configure the right drive. It is necessary to restart UniForm. Later releases are expected to cover additional formats and additional computers. UniForm is a much needed solution to the problem of incompatible formats. It is currently reasonably priced at $49.95 suggested retail. The price may be going up in the near future.

# Bookstore

*"THE EPSON QX-10 USERS GUIDE"* by James M. Hansen. March 1984, Scott Foresman and Co. $21.95.

This book represents a finely detailed description of the QX-10- from it's conception when it was known as the General, to it's present day name the Epson QX-10.

The author is a professional hardware software engineer with a long background in microcomputers, and has written reviews of the Epson QX-10 in several national magazines. Mr. Hansen is also a skilled photograher and has included over 80 detailed photographs in this book.

The book begins with the QX-10 history, and proceeds with a thorough description of both the external and internal workings of the QX-10. The operating systems, applications programs, Valdocs and Basic are discussed in depth. Of considerable interest are the sections on peripherals like speech synthesizers, expansion cards and accessories.

The author has included tips on maintenance, and discussion of the use of various applications software packages. Just about every conceivable question that a reader might have will be found somewhere in this book.

The historical information concerning the evolution of the Epson corporation beginning with K. Hattori Co. is fascinating and demonstrates the depth of research the author has put into this publication. The book not only serves the relative novice but also the experienced user. This is an excellent reference book on the QX-10.

Free update available for *The QX-10 Book* by the Barian Company. Purchasers of this book may tear out the last page, enclose it with a self-addessed envelope, and send it to The Barian Company. You will receive a free update of the Version 1.18.

*"Getting Started With CP/M"* by Rob Patten and Paul Calandrino, 1983, Published by the Hayden Book Company, $12.95.

This book is a very easy to follow beginners reference guide to CP/M. The built-in commands like stat, dir, era, are explained and shown with examples of their use. Details on formatting, copying and using sysgen with your CP/M disks are given. This is a good beginners book.

*"The Epson HX-20 Idea Book"*, by David Ahl, Creative Computing Press, 39 E. Hanover Ave., Morris Plains, NJ 07950. March 1983. Orders must be prepaid by charge card (Amer. Express, VISA, Mastcard), check, or Money Order. $8.95 plus $2.00 postage and handling.

**KEN BARBIER, *CP/M ASSEMBLY LANGUAGE PROGRAMMING*, A SPECTRUM BOOK (A DIVISION OF PRENTICE-HALL INC.), 1983.**

This is a very good book for the person who wishes to be introduced to assembly language programming. Ken Barbier uses many examples and sample programs to help the beginner learn the right ways to program in assembly code. The book is a blend of programmed instruction and straight text with a bit of programming and computer history added for spice. I might add that all the books on assembly language that you have included in your feature deal with the Z80 processor and its peculiar set of mnemonics. The assembler included with CP/M does not recognize these mnemonics, so the beginner has to use the 8080/8085 instruction set. This works fine with the Z80, it is just that all the registers are not available and some of the Z80 instructions are not included. To use the Z80 assembly mnemonics one has to obtain a Z80 assembler which is quite specific for Z80 machines, whereas the CP/M assembly language with the 8080/8085 mnemonics will work on any machine that CP/M is compatible with.


SUPPORT PRODUCTS for EPSON COMPUTERS

HX-20

| | |
|---|---|
| * STABLE TECHNOLOGY'S HX-FORTH Compiler | $ 195 |
| * STABLE TECHNOLOGY'S ST-2 Analog Interface Module | $ 795 |
| * ST-2 Hardware & Software Options | CALL |
| * STARTING FORTH by Leo Brodie | $ 16 |
| * THE COMPLETE FORTH by Alan Winfield | $ 15 |

QX-10

| | |
|---|---|
| * QCS Hard Disk Drive with both TP/M & CP/M Operating Systems installed. 10 to 84 Mbyte Capacity. Ready to go on your QX-10. Price & Information on Request | Call |
| * The QX-10 BOOK Includes Valdocs, CP/M, Telecommunications, Printer Interfacing and much more | $ 15 |
| * SOFTWARE - Hundreds of programs available | Call |
| * QX-PC Add the MS-DOS operating system to your QX-10 | $ 795 |
| * DSDD Diskettes Wordsworth Premium Quality reg 49.95 | $ 39 |
| * ONEAC Power Line Conditioners Protect your Computer Investment - Model CT-1102 (QX-10, Printer, Modem) | $ 265 |
| Model CT-1105 (4.8 amp) Call for technical Specs | $ 435 |
| ** FIVE year Warranty on all Power Conditioners ** | |

Orders & Inquiries Contact
G W Smith Associates
62 North Chapel Street
Newark, DE 19711
302-738-7308

VISA MASTERCARD

# Questions & Answers

Q— After successfully building two mailing lists and printing the information in a variety of ways, including labels, I decided to add another line of information to one of the lists. I proceeded to define a new address file and combine the two. Everything went well until I tried to position items for the labels in the newly combined list. The CTRL P would not function. Have you heard of others with this problem? Judith Oldham, Davie, FLa.
A— Yes, Judith, I have had the same problem and found that by putting the CP/M 2.21 system tracks back onto the disk all my problems were taken care of. I hope yours is as easy to solve.

Q— We purchased the Peachtree Inventory, but it is programmed for a hardware type of operation and not suitable to our work in Joanne's Fashions. At the end of each season, it would be beneficial to know how well a product sold and if we should by that name brand again. We would like to know how many of each size we sold, what colors sold best, how many formals were sold, skirts, etc. Mae Cox, Mobile, AL
A— HELP WANTED on this from users involved in this type of work.

Q— Can anyone tell me why Valdocs will not print out the one quarter and one half keys? They show on the screen, but when I print them, they print an arrow.
A— There are some newer print modules that are being tested to replace the ones in 1.18 Valdocs. With the current 1.18 Valdocs, if you have an FX printer, and you put your QX-10 dip switch 8 down, it will load the graphics and character fonts automatically upon a cold start.

Q— I have noticed that the [C]trl allows the expert user to enter ZAPPLE. I have not heard of ZAPPLE before. Would you please explain what it is and how it can be used. John A. Clinkenbeard, Midland, MI.
A— ZAPPLE can be thought of as a tool box, by which an experienced user can debug hardware and software problems. It gives machine level access to the I/O system. It contains drivers for the video CRT, the keyboard, and parallel and serial ports. This should only be accessed by extremely experienced users. There is documentation available about ZAPPLE in the Rising Star Manual called "A Programmer's Guide to Valdocs". This manual is available from Rising Star Industries for $18.00. Rising Star Industries, 24050 Madison St., Suite 113, Torrance, CA 90505.

Q— What are the memory locations for the Video Display? Several programs that I am working on will use the POKE statement. Where do you find the location to POKE without interfering with other operations? John Gatch, Myrtle Beach, S.C.
A— Part of this information is in the QX-10 technical manual which is available through your dealer (we will assist if they are unable to get it for you). The other manual you will need is the one from NEC Electronics Microcomputer Division at: One Natick Executive Park, Natick, MA 01760. They have an extensive manual on the 7220/GDC chip which is the graphics display controller chip inside the Epson QX-10. The ports are not memory mapped. Basic in Z80 machines use the OUT statement instead of the POKE. You will send strings of information to the 7220 chip. Please! be wary- by addressing the vertical or horizontal sync ports of the 7220GDC chip you may blow the fuse in your monitor.

Q— I need help with the skiwriter software and my NEC 3510 Spinwriter serial printer. The documents print out beautifully except I cannot find a way to get the printer to skip over the perforation. I have been unable to locate appropriate control codes in the printer manual. William McIlvaine, Denver, CO.
A— The only solution we know to this is to manually keep count of the number of lines as you create your text. Limit yourself to around 60 lines and fill in with blank carriage returns.

USER HELP is welcomed here. Let us know how others handle this.

Q— In MBASIC the command NEW will clear the memory, but not the screen. What command will clear the screen?
A— Control Z., also, in a program the line PRINT CHR$ (26); will do the same thing.

Q— If you know where I can find a program for the QX-10 with amortization and interest capabilities, I would greatly appreciate learning the source.
A— There are a lot of public domain (free) basic programs that do this. There are some on our Epsonet RBBS/RTPM Bulletin Boards. One is called Loanaffd.bas, and Loanpay.bas. To get the program, you can call into our bulletin boards and download the program, when you get the modem you indicated you will be purchasing.

Q— I sometimes get an extra underlined character when I try to underline a phrase. Jon S. Winters, Muncie, IN.
A— Style lets you underline text, as you indicate. Many users have had difficulties with the underline going beyond the text by one space. You need to remember to toggle the line feed off in the position of the last letter you want underlined, not after hitting a space bar at the end of the word.

Q— I own both a QX-10 and an HX-20 which now communicate with each other very easily from skiwriter to PIP as long as the baud rates, parity, and word size agree. I have had a few problems when I call up the transferred file using Valdocs 1.18. I can only read the last half of any file I transfer. Any thoughts? William B. McIlvaine, Denver, CO.
A— There is an excellent program called SKIXFER in the public domain that will allow you to transfer files to and from the two computers with speed and ease. It runs on your QX-10 through the direct connect 715 Epson cable. This program is on our bulletin boards, and is also available at your Distributor Western States Computer Distributing Co. They may be able to let you know of a dealer near you who also has it. Phone 030-296-9377.

# Software Review

## EVALUATION OF TOTALCARE FOR MEDICINE by Richard S. Litman, M.D.

The software program written by Michael and Linda Bates, entitled Totalcare for Medicine, is a program in the Epson "tradition." It is, as the Epson ads have stated, "STATE-OF-THE-ART . . .SIMPLICITY."

The program is designed for computerizing a medical office and easily allows the user to do all his office billing and maintain necessary information on his patients, the status of all accounts, insurance information, procedures performed, diagnosis, as well as other important data. While not requiring much knowledge on the part of the user as to how to work a computer, it is simple to operate and thorough.

The program is adaptable for usage in a single or multi-physician office (up to 99 physicians). A separate data base can be maintained on each physician. Furthermore, it can maintain a data base on each procedure performed, where it was performed, who the referring physicians were as well as which patients were referred.

Daysheet entry is simple to accomplish, and is compatible with pegboard billing systems. The system appears to be able to take over where a previous computer billing service might leave off. Printing the statements each month is also simple to accomplish and there is even a mechanism to print different messages on different age bills.

The system ages accounts and prepares collection worksheets automatically. There is provision made for connecting the system with a modem, as well as a word processor (especially helpful for printing collection letters).

Other features include provisions for using ICDA-9 diagnostic coding and CPT-4 coding, easy use with simple menus and prompts to aid the user.

The system does require more, however than the Epson computer comes with from the store. That is, to run the program effectively one would need a hard disk drive, and probably a wide printer as well; but this is likely true of any system that would do billing for a large practice.

One other point that I also feel is important to mention is that while the system can be used with a word processor, it has been set up to use primarily with PeachText. I do feel that provision should be made to use it with Valdocs, if the purchaser so desires. I also cannot state how rapidly the system would work with several hundred patients as I have not tried it in this fashion.

I feel that this system is an excellent means for one to computerize a medical office. I have discussed its use with the author, Michael Bates, who I have found quite knowledgeable and helpful. He stated that he will look into making the system compatible with Valdocs. Dr. Bates also mentioned that he has made provision to support purchasers of the system. An electronic user bulletin board is available along with various forms (insurance forms and registrations cards, etc.) for use with the printer.

In summary, I have been quite pleased to have had the opportunity to evaluate this software. As a physician in a group, with a busy practice, I feel that it could easily be used to bring my office, as well as those of other physicians, into the computer age. Contact Dr. Michael Bates, P. O. Box 724, Gallipolis, OH 45631, 614-446-8203.

*"My DBMS doesn't do what I want,"*

*"Then switch to MAG/base."*

MAG/base™ is the only data base management system that won't disappoint you.

MAG SOFTWARE INC.

21054 Sherman Way
Canoga Park, CA 91303
(818) 883 DBMS

## CONVERTERS

Small external boxes that attach to your printer, QX-10 or HX-20 to provide signal conversion are being offered. These are handy devices, and the cost to use with the Epson printers and computers must include external power options. The cost of a converter with power option and 36 pin connector option is $119.95 plus shipping. Refer to: Serial to Parallel Converter, Model 770; or Parallel to Serial Converter, Model 775 when ordering. For more information contact Engineering Specialties, 1501-B Pine, P.O. Box 2233, Oxnard, CA 93030.

# Hardware Review

## PRO–MODEM 1200

*by Ron Spatafora*

Vendor: Prometheus Products Corp.
45277 Fremont Blvd.
Fremont, CA 94538
415-490-2370

Is this another "Hayes" clone? Clones have a bad reputation of not really being "absolutely" identical to their counter parts. This one comes close, with some attractive extras. The Pro-Modem has two major settings: Hayes or Pro-Modem. In the Hayes configuration it works fine with both Valdocs 1.18 and the public domain program, MDM7 series. The Pro-Modem setting is really a super set of the Hayes commands. You have additional commands such as: loop test, computer to modem buffer, line monitor status and several others.

The only problem I had was in establishing the proper discrete switch settings. The switch bank is located on the bottom of the modem which is certainly more convenient than the Hayes (behind the front face plate). The proper setting is: 1,2,3,4 ON; 5 OFF; 6 ON; 7,8,9,10 OFF. This should give you a true "Hayes Compatible" modem, at least with respect to the QX-10, Valdocs 1.18 and/or MDM7 series.

A nice feature of this unit, is it's ability to detect the telephone line service (tone or pulse) and shift automatically to match it. It also has a special filter buffer that detects 1200 or 300 connections and automically shifts down if the other connection is 300. The Pro-Modem has a built-in real-time clock (a battery backup comes with the processor option) and a 2" controllable speaker. Another nice feature is having two telephone jack connections, one for modem to house and the other to connect to your phone, so you don't need a "T" adaptor as with the Hayes.

What sets Pro-Modem apart from everyone else are the options. The processor gives you a built-in call directory and functions as the control for the other optional features. You can opt for a 12 digit alphanumeric display (the basic unit comes with the standard Hayes lites) that gives you a time readout or modem status in English words. The other option is the memory buffer, from 16k to 64k in 16k steps.

There are a few differences with regard to true Hayes compatibility, and those points are carefully brought out in the 40+ page manual. Most of the differences have to do with the fact that in the Hayes configuration you lose some of the Pro-Modem features. As far as the Epson user goes, that'll mean nothing, it's just like a Hayes. After a day of serious evaluation and help from Ralph Ruh (Ohio RBBS/RTPM and Epsonet Coordinator), I had the unit functioning perfectly. In regard to internal vs external modems and lites vs no lites I would like to make one comment. There are several instances where there is no substitute for an external modem with lites.

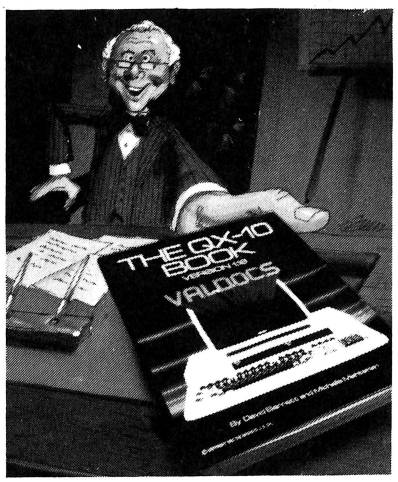
Several users have called my RBBS using Valdocs Mail and attempted to upload a file to me; the screen said the file was transfering but indeed it was not. Fortunately the user had a modem with lites and noticed that the send lite was not lit. This is one case where lites paid off, there are many other situations that require "monitoring", a function that doesn't lend itself to internal or cheaper non lited modems. Keep this in mind! So, if you're in the modem market, you should consider the Prometheus Pro-Modem 1200 for your Epson. Prometheus welcomes dealer inquires.

---

This is a user suggestion in response to Charles Edwards of Schuyler, Va., who was looking for an easier way to set print size while running PeachCalc. To set condensed print do the following: After hitting /O for output and defining what you want to print, type S to enter setup. This will take you to the setup menu. Type S again for manual print codes, hit margin release key, then control o, and then return. Then type P and your output will be in the condensed mode.

For the type settings, refer to appendix D in the QX-10 operations manual. Example, the margin release key is CHR$27, control o is CHR$15. This gives you condensed print. I hope this will be of help to Mr. Edwards.

*Paul Hiers*
*Geneva, Ohio*


**"Required reading."**

Get the **QX-10 Book** and learn how to use VALDOCS and the EPSON QX-10® in a fun and easy-to-read way. A unique new approach to learning how to use a computer! Also includes: printer interfacing, CP/M, a computer dictionary, telecommunications, and over 10 pages of phone numbers your computer can call. Contact your local bookseller, computer retailer, or send $15.95 (plus $3 shipping and handling) to:

**The BARIAN COMPANY**
12021 Wilshire Blvd. Suite 148
Los Angeles, CA 90025
(213) 453-2470

In Canada, please send $24.95 plus $3 shipping. M.C. and VISA accepted by phone order only. California residents add 6½% sales tax. Dealers: contact Micromedia (800) 423-4265 or SofTeam (800) 421-0814.

IBM is a registered trademark of the International Business Machines Corp. QX-10 is a trademark of Epson America, Inc.

**NEW!**
**UPDATED EDITION Includes info on MS DOS and the IBM® card on the QX-10!**

Send to: **The BARIAN COMPANY**
12021 Wilshire Blvd. Suite 148
Los Angeles, CA 90025

Please send me _____ copy (copies) of **The QX-10 Book.** I have enclosed $_____ (at $15.95 for U.S. orders, $24.95 for Canada — plus $3 per book for shipping)(California residents please add 6½% sales tax).

Name _____
Address _____
_____
City _____
State _____ Zip _____

# Potpourri

## COMPUTER INSURANCE– WORK OR HOME

In response to numerous requests about insurance for your computer at home or at work, we have found the following source. We will list others as we learn of them.

Safeware Insurance, 2929 North High Street, Columbus, Ohio 43202. Phone 1-800-848-3469 (In Ohio call 614/262-0559)

Fireman's Fund underwrites the policy. They are licensed in all the U.S. except Alaska. They can bind the policy immediately upon receipt of your phone call by charging the policy to your Mastercard or VISA. When calling in you need to have the following information available: Main use of the computer, if you have an alarm, primary location of the equipment, and serial numbers of each item to be insured.

Prices vary with the value of the equipment insured.

| Equipment Value | Premium Per Yr. |
|---|---|
| $ 2,000 | $35.00 |
| $ 5,000 | $60.00 |
| $ 8,000 | $75.00 |
| $11,000 | $90.00 |
| $30,000 | $185.00 |

These are current prices quoted by the company. Full replacement coverage with a $50.00 deductible includes hardware, software and media. Coverage includes fire, theft, accidental damage, and damage caused in auto accidents transporting the system. Failure caused by power surges is also covered.

*TIPS: Keep all your receipts, with the serial numbers, in a file. Pictures of the equipment are also helpful to have in the file.

**MicroNova**

is pleased to announce

**MicroRAM**

the affordable RAM disk for the QX-10.

- *Runs on any 256K version of the QX-10 under CP/M*
- *Requires no additional hardware*
- *Gives you a fast, silent 167K pseudo disk*
- *Complete source code included*
- *Introductory price $80 (US)*

All orders must be prepaid with check or money order payable to:

MicroNova
R.R. # 5, Canning, Nova Scotia
Canada B0P 1H0 (902) 582-7016

## TAX FORMS AND YOUR PEACH CALC PROGRAM

Randy Schimmenti, a fellow QX owner has developed Tax Forms with instructions for use with Peach Calc (Peach Tree Software). The following forms: 1040, Schedules A, C, D, E, F (on request), G, and SE. These are on disks, and ready to use with Peach Calc. The template forms will allow anyone to compute his taxes "regardless of the difficulty and complexity involved". Contact Randy at: 21 Maple Avenue, Holbrook, N.Y. 11741 or by phone at 516-467-4588.

## USER TIP: 6 FOOT CORD FOR THE QX KEYBOARD

There is a grey Radio Shack No. 42-2151 5pin din male to 5pin din male cable. This cable costs approximately $5.00 and allows you to have your QX keyboard 6 feet from the computer. This is a straight, not coiled, cable. John Corcoran of Dearborn Heights, MI brought this to our attention. (Your editor has been using it for the past 3 months. Just plug it in where the keyboard cable attaches.)

## NEWS NOTE DANGER– LOW VOLTAGE

The HX-20 circuitry in basic will detect a low voltage condition and will flash this on your screen. In machine language programs you have to write a jump routine to get to the battery check location. In skiwriter there is no indicator for low voltage built in so you can reach the point where you loose all voltage, all files being worked on and anything else in RAM. A danger with NiCad batteries is if they completely discharge, they can short out internally. It is best to fully charge the batteries as indicated in the manual, and then, when using skiwriter for long periods of time to occasionally exit to basic to see if a low battery condition is approaching. (Brain Lomasky)

# Potpourri

## COMMON VALDOCS TROUBLESHOOTING TIPS

The following problems are situations we have received numerous calls and letters about.

PROBLEM– All of a sudden everything I typed was in capitals, and my shift-lock key was not on. What is wrong?

*If you press your Control and Style keys this will toggle your upper case letters on, and small letters will be accessed by using the shiftlock, just the reverse of normal operation. Pressing the control and Style key a second time will switch it back to normal.*

PROBLEM– I have trouble with my Epson dot matrix printer. The page numbering is fine on the first page, but after that, it is shifted to be at the top of the following page.

*When you turn your printer on, it remembers where it is located. If you then use linefeed to advance it to the perforation, it still remembers where it was when turned on, and continues to treat the original location as the top of form. The best procedure is after advancing the printer, turn it off and back on.*

PROBLEM– My bold and italics don't work. I can't print them on the screen. Is my disk bad?

*There is a feature called QUICK DISPLAY which is accessed through the Quirks Menu (press Control Q). You will need to be in the novice or higher experience mode through your setup menu to access the Quirks menu. This quick display mode allows you to have quicker cursor response.*

## CLEANING YOUR DISK DRIVES:

Many users have asked about the programs on the market that move the head of the disk drive to different areas in the head cleaning process. We recommend using a good commercial disk cleaning kit which uses a solution of flurocarbon and isopropyl alcohol. The kit will look like a floppy disk, with a white fabric insert. We recommend you apply the solution only to a restricted area, generally about one half of the area of the cleaning surface, so that there will be a dry and wet cleaning process that takes place. To use the disk, insert it into your disk drive, follow the directions included with the kit, and turn the computer on, this will cause the disk drives to rotate. How often you need to clean the drives will depend on your use, and the operating environment. (We generally clean ours once a month.)


## BUSINESS SOFTWARE FOR THE EPSON HX-20

Easy to use, Menu-driven business applications are now available for the EPSON HX-20. All are useable with 16K memory. 32K versions are available. The following specifications are for the 16K versions. Please send for a catalog containing full specifications concerning any of these programs.

1) Database Management System - Allows the user to personally design his own database of up to 165 rows by 5 columns; maximum of 29 characters per record; user-definable report formats; $50

2) HXCalc - Allows the user to construct a spreadsheet of up to 16 rows by 16 columns; up to 3500 characters can be stored in a single spreadsheet; addition, subtraction, multiplication, and division are supported between cells; $50

3) Financial Calculator - Performs Compound Amounts, Direct Reduction Loans, Savings Calculations, and Amortization Schedules at the touch of a button; $50

4) Realtor Qualification System - Will qualify a buyer for a conventional mortgage; $50

5) Century 21 Realtor Qualification System - Customized version of the Realtor Qualification System specific for Century 21; qualifies buyers for conventional, VA, and/or FHA mortgages; produces a very detailed financial report; also computes Direct Reduction Loans and Amortization Schedules; $200

6) CAI Database - Computer Aided Instruction Database allowing the user to create a programmed learning sequence for any subject; $50

7) Inventory Control System - Manages an inventory of up to 255 different items; stores part number, description, quantity on hand, quantity on order, reorder point, and unit cost; a report enables the user to see which items should be ordered; also a complete inventory valuation report; $50

8) Math Tutor - Tutors children in addition, subtraction, multiplication, and division; complete performance analysis when student is done; $20

9) Time Acccounting - Allows anyone to account for time and money billed or spent against any project; capacity of up to 100 different projects with up to 50 different billable activities and up to 140 different billing entries; reports automatically total by activity and project; Can be used as a small General Ledger System, allowing the user to post amounts to 100 different General Ledger accounts; $50

10) Stock Portfolio Management - Stores a complete stock portfolio within the HX-20; allows easy entry of stock purchases, sales, and price updates; A report prints the entire history of a stock, showing the current worth of the user's holdings along with the actual gain/loss-to-date; Graphics option plots a graph showing the trend of any stock; Capacity of up to 450 different stocks and values; $50

11) Patient Alert System - Enables a doctor to enter special "alert" information for up to 26 different patients; the receptionist can search the resulting database by the patient's first and last name in order to see if any special alert information is posted there; Stores the patient's first and last name, miscellaneous description, Dx, Rx, and two alert messages; Each field may contain up to 48 characters; $30

Available From:
Brian Lomasky
984 Hanover Road
Meriden, CT 06450
Telephone: (203) 237-9272

Dealer Inquires Invited

# Ralph's Corner

Many of you have expressed interest in obtaining more information concerning some of the programs found on many of the Epson-Net bulletin board systems. I will attempt to provide you with some descriptive information on many of the utilities and more useful programs available in the "Public Domain". This section is not intended to be a tutorial for each program application discussed, but rather a simple descriptive excerpt to help you decide on the value of the program to you.

MDM7XX.COM

Very popular telecommunications program written by Irv Hoff. This program provides the user with a very sophisticated and user friendly modem program. The program allows users to auto dial, continuous auto dial on a busy signal and the ability to use MCI or SPRINT access. Highly recommend this program to all users.

CHGLIB.COM

This program allows the user of the MDM7XX series program to modify the built-in telephone library to suit his own personal library of frequently called bulletin boards. Documentation of the use of this program is available as a separate file called CHGLIB.DOC.

LU.COM

[L]ibrary [U]tility. This program was written by Gary P. Novosielski. This program provides the user the ability to package programs together in a bundle called a Library. A library file usually takes up less space than the total of the individual member files which went into it; therefore the use of libraries is very valuable when working with bulletin boards in transferring packages of software from one system to another using XMODEM. You will recognize libraries on bulletin boards by the file extension .LBR. There is a very complete documentation file available that will provide you with all the needed information to fully utilize this excellent program.

SKIXFER.COM

This is a very handy and useful utility program written by Gary Argraves of Computronics, Inc. to facilitate the transfer of text created with the HX-20 wordprocessor "Skiwriter" to your QX-10 for further processing. Very simple and easy to use with a direct connection between the computers via the 715 cable. This program is a must for owners of both the HX-20 and QX-10. See the SKIXFER.DOC file for complete information.

DISK.COM

This utility program allows the user to do multiple disk maintenance such as deleting, erasing, re-naming, as well as relocating files or programs on a disk. The program is very similar to Sweep.Com and Wash.Com. I highly recommend this program for your Library of disk utilities.

BUFEXQX.COM

This program is another modem program, written especially for use when using Compuserve. This program supports the Compuserve protocol and allows for downloading and uploading to CIS.

ASC.SYS

This program is an excellent utility, useful for stripping control codes, special character enhancements from documents created by the Valdocs editor or Wordstar. Program is self-documenting by just typing "ASC" at the prompt and hitting a return. You will be presented with a small menu of options.

MAKE.COM

This program may be useful in the CP/M operating system to move programs or files from one user area to another. This program relocates the target file or program, not simply duplicating the target in another area.

LDIR.COM

This is a companion program to LU.COM, which allows the examination of the library members. Example: A]LDIR LIBNAME [RET] Will list a directory of library LIBNAME.

FIX220.COM

This program fixes the Control-P printer toggle which was not supported in the original CP+ CP/M release. It also fixed the Control-7 and 8 which caused the computer to reset.

SD-7X.COM

This is a "Super Directory" program which sorts your disk files into an orderly directory for easy viewing. Recommend this or other similar directory programs, such as NI.COM, etc. be placed on all disks.

The following program descriptions were sent in and contributed by David Huckabee of Arlington, Virginia:

QXMODEM and ATXMODEM

These are modified versions of the CPM "MODEM 7" program. ATXMODEM has been specifically customized for the QX-10 and TPM to allow the parity to be changed. Neither program is documented. I have included some notes on my use of ATXMODEM to serve as "documentation".

VAL-AID

This allows codes to be added to VALDOCS files to enable letter-quality printers to print sub and superscripts. VAL-AID can also be used by FX series printers to not only print sub and superscripts, but also for condensed and enlarged print.

DEVAL

DEVAL strips VALDOCS document files of all VALDOCS codes so that only ASCII characters remain. This program will be useful to persons who are having difficulty in transmitting text files to other computer systems, or who want to use VALDOCS files in other programs on their QX-10. The version I have works only occassionally. I am also including another VALDOCS "stripping" program entitled ASC that allegedly works better. (At least it seems to work more consistently.)

VALINDEX

This is a program that lists not only the VALDOCS Index names for files, but also shows the "true" filenames of the documents as they are stored in TPM. This utility will be useful in using programs such as the Peachtree "Spelling Proofreader" and the VALMERGE program.

# From Sydney, of course!

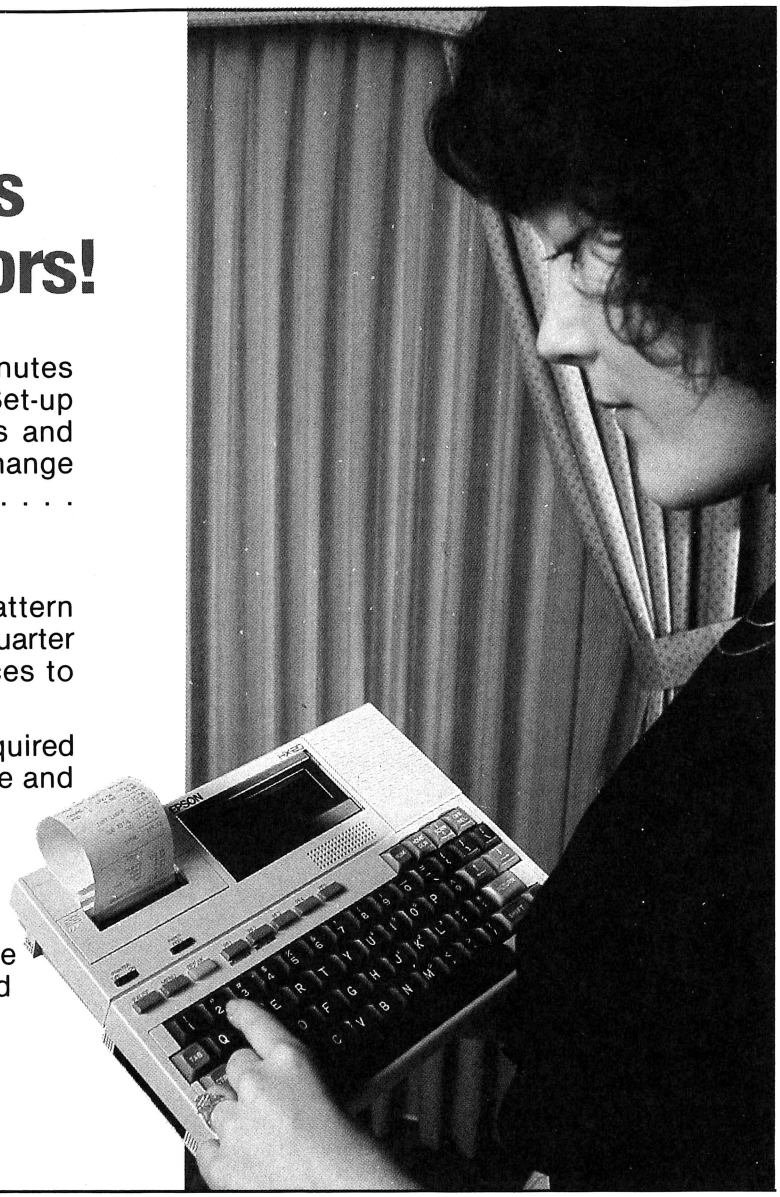
## Fabulous Portable Estimators for Drapers and Interior Contractors!

Now, do complex interiors estimates in minutes instead of hours, with complete accuracy. Set-up routine allows you to input labor costs, prices and calculation variables of your business and change them when necessary. Higher sales volumes . . . . . greater accuracy!

**For residential drapery estimating . . .**
**Handles** • All fabric types • Any width • Any pattern repeat • Any miscellaneous sales or charges • Quarter and half panel calculations • Your cut allowances to hems and headings • All hardware types.

**Calculates and prices** • Materials and lining at required fullness • Required widths and labor • Hardware and installation • Sales tax.

**The commercial drapery estimator . . .**
Designed for apartment, hotel and institutional sales. Includes all features of above residential estimator, plus: • Prices multiple fabrics at same time so you can provide a range of materials and prices • It can estimate using predetermined track and drape measurements for specific windows, which you can define and store in your system.



And to automate your entire business, don't forget
**THE SYDNEY CUSTOM DRAPERY AND INTERIORS BUSINESS SYSTEM!**
A software package designed by drapers and interiors experts. Runs on your IBM personal computer. Dozens in use! Provides: • Order entry processing and sales reporting • Inventory and purchase control • Business and management reporting • Mailing list maintenance • And much more.

**DEALER INQUIRIES INVITED**

**Sydney**
**Dataproducts, inc.**

2000 Spring Road, Suite 505
Oakbrook, Illinois 60521
(312) 789-9118

1750 Montgomery St.
San Francisco, California 94111
(415) 986-6911

**In Canada:**
600 - 1385 West 8th Avenue
Vancouver, B.C., Canada V6H 3V9
(604) 734-8822 Telex 04-54357

# Software Review

## DATABASE MANAGEMENT SYSTEM

*by Bob Herman*

No.1 Version 2.0 (16K), by Brian Lomasky

Hardware required: Epson HX-20 with microcassette drive

Hardware used to evaluate: Epson HX-20 with microcassette drive and expansion memory

This menu driven system of data base management comes on a microcassette with seven pages of documentation. It consists of two programs, the main one being DBMS which contains the "working" part of the system. The second program saves or recalls data from the tape. The system has the capability to store up to 165 different files (250 on a 32K computer) of up to five columns and 29 characters. Numeric or non-numeric data may be entered; numeric data may be summed both vertically and horizontally.

The main menu of the program has four options: Database initialization, Entering and Updating data, Purging deleted records, and Report formatting and Printing. Selection of the first option allows the user to designate first the number of columns to be contained in each record, a title for each column, and whether the data will be numeric or non-numeric. The maximum number of characters that each record can contain is 29. There is no restriction to the length of each column in a record, just as long as the magic number of 29 is not exceeded. A running total of the spaces remaining is conveniently displayed as the format is being designed. When the column-header for the last column has been entered the program returns to the main menu.

To enter data choose the Entry/Update option from the main menu. The Entry/Update menu will then be displayed, offering the choices to either enter new data, or change or look up existing data, or delete data. Selection of the first option causes the user to be prompted by the appropriately designated column header to enter the pertinent data. The data columns do not have to correspond lengthwise with their respective column-headers, but again the file may not exceed 29 characters. After each file has been entered you return to the Entry/Update submenu.

In order to change or delete entries, it is necessary to specify the entry number of the desired file. The column-header and the data in that column will be displayed along with a query as to whether or not to modify the field. If the choice is to change the entry, you are then prompted to enter new data. When deleting an entire record you again must specify the entry number of that record. A final chance to change your mind is allowed before the record is actually deleted.

The Purge deleted records selection of the main menu is merely a data file reorganizing option that "cleans" out elements of deleted data that clutter up the Ram file area of the computer. This will reduce computing time when searching for a particular entry or for space for a new entry.

When printing out the contents of a database it is possible to create and maintain up to four different formats containing any combination of the five data columns and the entry number, as well as vertical and horizontal totals. The printout may be accomplished on either the microprinter or an external printer. It will be titled "Database Report" and includes the date and time that the printing is accomplished in the heading. There is then a space between this heading and the column titles, but not between the column headings and the start of the data. When using an external printer it is possible to have up to 131 spaces per line.

The Report section of the program also allows for searching for various entries in any specified column. It is possible to specify only a single letter of a particular column to find the desired records. The printout will be in the particular format desired, containing all of the elements of that format. In addition to this "generic" search capability, an exact search may also be executed. The report formats are retained with the data in the file and may be reviewed when in the Report section of the program.

Because of the memory requirements of the program, it is necessary to exit it and clear it from memory and load the second program to save or recall data on tape. The Ram file area with all of the data will remain intact. On a unit with the expansion memory this is not necessary.

Because of the 29 character per record limit and the ability to sum both vertically and horizontally, this database system seems to be oriented more towards numeric than non-numeric data. It is very easy to use and the accompanying documentation is most complete. It would be nice to be able to title each separate database established and have this title appear on the printout. Also, a deliminating space between the column headers and the start of data would make the printouts a little more clear and eye-appealing. In the opinion of this reviewer, it is an excellent and very useful piece of software.

## BINGO

*by Bob Herman*

Hardware required: HX-20 with external cassette

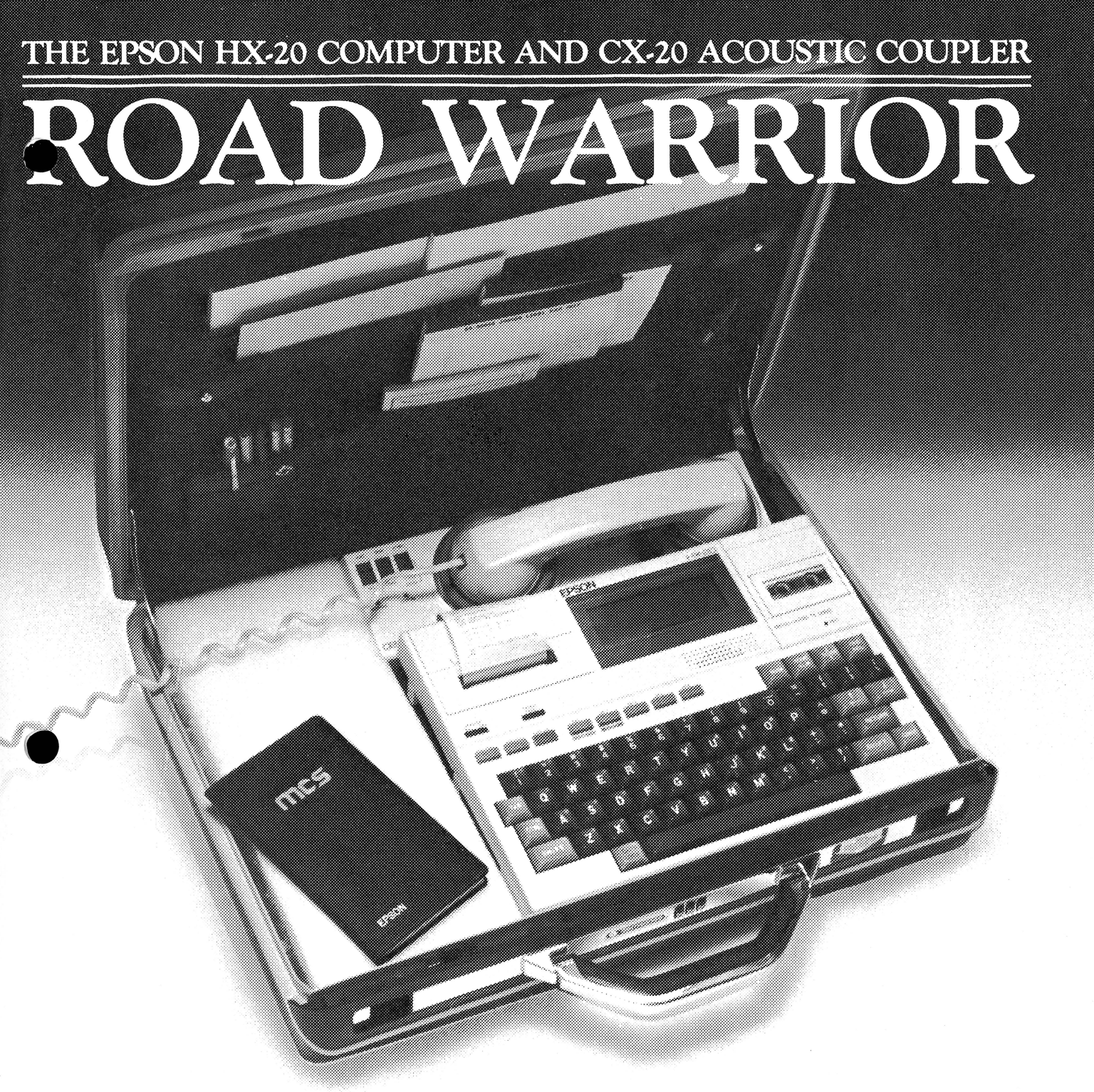
Hardware used to evaluate: HX-20 with microcassette, expansion memory and an external cassette.

This program provides a fascinating technique of playing Bingo. It generates playing cards on the microprinter and then lists out a random check list.

The program starts by reminding you to turn the microprinter on. It then asks for the number of players and then requests each player's name as it creates his or her playing card on the microprinter. As the playing cards come off the printer, you are reminded to tear them off. When everyone has a card, the game begins as a computer-selected random number appears on the microprinter (the numbers range from 1 to 9). After each number you are asked if a winner has been determined. If not, then another number is selected. When there is a winner, you are asked to "check cheart" (its easy to correct the misspellings in the source code) to verify that there is indeed a winner.

THE EPSON HX-20 COMPUTER AND CX-20 ACOUSTIC COUPLER

# ROAD WARRIOR




It's a war out there and on the road you need support: the support of the Epson HX-20 terminal and CX-20 coupler.

The smart HX-20 sends and receives information with a 5K buffer and operates for a full 50 hours without recharge. Even with a convenient full sized keyboard, and the capabilities of a desktop computer, the HX-20 and CX-20 are still small enough to fit into a briefcase you can take anywhere.

See or call your Epson Computer Dealer today for a demonstration of the smart support you need to win the war on the road.

**HX-20 computer and CX-20 acoustic coupler with case.**

**$1077.**

(Price optional at participating Epson Computer Dealers.)

## See your favorite Epson Computer Dealer, today.

Distributed by mcs Microprocess Computer Systems Inc., Southgate, MI 48195 (313) 281-2800

# METRO DOES

## New and Exciting Products from the Creators of QPlotter.

**The greatly enhanced and expanded QPlotter program.**

The old QPlotter program offered you the capabilities of drawing virtually anything you wanted on the screen, as well as combining graphics capability with Mbasic. For thousands of users, the QPlotter program was a major step forward in Epson graphics.

Now, less than four months later, Metro Software has expanded and improved QPlotter— making it the only package on the market that gives you features never available before on a microcomputer.

**These features include:**

1. The user now has complete access to drawing on the screen using the mouse, joystick, digitizing pads, light pen and koala pad as well as the keyboard.

2. QPlotter can call up sophisticated figures by a single command. As an example of this, when you need to draw a complex figure that has been drawn before you can retrieve it from the figure library and place it anywhere on the drawing area. This saves you time, eliminating the need to redraw figures that are used on a regular basis.

3. QPlotter has the capabilities of creating any type of image on the screen while at the same time drawing it on the plotter. At last a program that will let you draw on a plotter as easily as you can print on your dot matrix printer.

4. The program supports multi-color figures even on a single pen plotter.

5. Microsoft Basic program code can be created as the figures are drawn on the screen.

6. Once figures have been drawn on the screen, although they may overlap, you can move one image or a group of images around the screen without any loss of detail in any of the other figures.

***QPlotter is available to you for $250.00.***
***Upgrades from the original package $25.00.***

# IT AGAIN!

**The Metro Guarantee**

*If you are not completely satisfied with any product*

*Metro offers, return it within 14 days for a full refund.*

## *Mouse

**FUNCTION:** Metro Mouse is a hand-held device that makes it easier to point to and move graphic symbols anywhere on your Epson microcomputer screen. As you move the Metro Mouse around on your desk or other flat surface, the pointer moves correspondingly on the screen. Thus you can change the size, shape, and position of graphics quickly and easily without using the keyboard. **FEATURES:** Metro Mouse includes the two-button mechanical point device for moving or changing graphics ... a printed circuit board that installs easily into a QX10 expansion slot ... and a programmable software driver that allows the mouse to tell the computer what to do. **ADVANTAGES:** Metro Mouse can be used with or without Qplotter. With Qplotter, you can use the mouse to draw arcs, circles, diamonds, lines, rectangles, squares, axis lines, parallelograms, triangles, or change parameters such as radius, patern fill, etc. without touching the keyboard. You can zoom or pan in one easy motion.

## *Joyboard

**FUNCTION:** Metro Joyboard, when used with a Koala pad, Comrex joystick or an Apple IIe joystick with special adapter cable, allows you to point to and move graphic symbols anywhere on your Epson microcomputer screen. The combination of a joystick and Metro Joyboard gives game writers the freedom to create true arcade-type games and graphics for the Epson computer. The Joyboard with joystick also enables the user to do sketching and plotting on the screen as does the Koala pad. In this way, the size, shape and position of graphics can be changed quickly and easily without using the keyboard. **FEATURES:** Metro Joyboard is an interface board that fits easily into an Epson QX-10 expansion slot. Used with the joystick, the Joyboard provides 360-degree movement and dial button controls for graphic and arcade functions. When used with the Koala pad the user may draw and change figures on the screen. **ADVANTAGES:** The Metro Joyboard is perfect for creating arcade-type games, with action and sophisticated graphics or graphic programs involving sketching and plotting. In either case, Metro Joyboard combined with Qplotter gives you unique graphic capabilities. You can draw arcs, circles, diamonds, lines, rectangles, squares, axis lines, parallelograms, triangles or change parameters such as adults, pattern fill, etc. without using the keyboard. You can zoom or pan in one easy motion.

## *Plotter interface

**FUNCTION:** The Metro Buffered Plotter/Printer Interface is an interface card which gives you a second compatible parallel interface port. To connect a printer or plotter, all that's needed is a standard IBM parallel printer cable. Because the plotter interface stores and delivers commands to the printer and/or plotter, you can do something else with the computer while it completes the printing and/or plotting sequence. **FEATURES:** The Plotter Interface utilizes one of the expansion slots on the Epson QX-10. It will operate with most parallel printers as well as plotters. The Plotter Interface comes standard with an 80 character line buffer. This can be upgraded in increments of 8k, up to 64k. The copy feature on the Plotter Interface can be used to produce multiple copies of whatever graphics are stored in the buffer. When the plotting is completed, just push the optional copy button on the Plotter Interface board. The Plotter Interface also has a reset button which stops the plotter and flushes the buffer memory. **ADVANTAGES:** Combining Qplotter with the Plotter Interface makes plotters work as easily as printers. Now everything you create on the computer screen can be transferred quickly and easily to the plotter. When you're ready to plot, just strike one key. The Plotter Interface stores the graphics to be plotted and starts the plotter. The printer port remains free, and the computer screen will accept new input from the keyboard. You save valuable time because the computer is not tied up while the plotter is plotting simple or complex graphics.

Metro Software inc.

2509 N. CAMPBELL AVE., SUITE 214 • TUCSON, AZ 85719

602-299-7313 • TELEX 709234

# Metro Software inc.

New Dimensions in Graphics

## EPSON'S GRAPHICS EXPERTS
## GIVE YOU THE TOTAL PACKAGE
**for**

BUSINESS • EDUCATION • GAMES

with

- Digitizing Pads
- Joy Board
- High-Res Color Board
- Koala Pads
- Mouse
- Light Pen
- Plotter/Printer Interface
- QPlotter

**ATTENTION PROGRAMMERS**

If you are writing software and need graphics and marketing help, call us for our Programmers Reference package.

**Metro Software, Incorporated**
2509 N. Campbell, Suite 214
Tucson, Arizona 85719
(602) 299-7313
Telex 709234